ImmPort Data Upload Templates Description

Schema Version 2.30

Content Version 2.30

This document describes elements of the various templates used in the ImmPort data upload system.

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1. Introduction

1.1 ImmPort Data Upload Templates Use

This guide describes the structure and use of the ImmPort data upload templates. For each template, the purpose, structure (e.g. column headers), and data entry rules are described.

For additional information about the ImmPort Data Upload workflow, please see the ImmPort data upload user's guide and tutorials (http://immport.niaid.nih.gov/immportWeb/experimental/displayDataSubmitHome.do).

It is recommended that you open the Adobe Reader bookmarks option to see a list of the templates.

Each template includes a Schema Version and Content Version tag. These are used by the ImmPort Data Package Validator and Upload Processing software to ensure the current version of the template is being used. The Schema version refers to the database schema structure. The Content version refers to the database content (in particular the preferred terms and reference data). These version tags should not be modified by the user.

As a reminder, the spreadsheet versions of the templates are provided for benefit of the data providers to enable display of comments and lists in the spreadsheet. The templates uploaded to ImmPort should be saved as tab-delimited text files. Template names should match the names as they appear on the ImmPort web pages. File names are not case sensitive. However, downloading templates from a web browser may cause your computer to append a suffix to the file name and this will prevent ImmPort from recognizing a template name.

1.2 ImmPort Data Upload Packages

The ImmPort data upload workflow is intended to be incremental or modular. You can send one or a few ImmPort upload templates and associated files (e.g. protocols or results) in a data upload package ZIP archive. Or, you can send in many templates and associated files. The order of uploading templates (study before subject or subject before study?) is determined by what descriptive data is referenced within a template and therefore what dependencies exist for an uploaded template to be successfully processed. For example, successfully uploading a subject template requires that a protocol and study arm be referenced, so both the protocol and study design template need to be in the same ZIP archive as the subject template or already uploaded and processed in ImmPort. Individual files contained in the package cannot exceed 2 GBytes (2^31-1 = 2,147,483,647 bytes) in size.

1.3 ImmPort Data Model Overview

ImmPort's model for handling research data is to organize information into metadata or descriptive categories. Each category has its own template (or suite of templates). The metadata categories and their functions are as follows:

Study: Studies provide the context and organization of a research effort. Studies organize subjects into groups (e.g. arms or cohorts) based on phenotype and/or treatment. The planned visit schedule provides a guide as to the temporal relationship between samples and encounters (i.e is the sample taken before or after a treatment). If the research includes seasonally variable treatments (e.g seasonal influenza vaccine), a separate study should be created for each season.

Subjects: Subjects may be patients or animals from which samples are taken for analysis. Two .xls templates (one for human and one for animal subjects) are available for recording subject information. In these files, treatment protocols used on the subjects can also be listed as well as many other details. Subjects are assigned to a single group (arm or cohort) within a study and maybe linked to multiple studies.

Biological Samples: Describe the types of samples taken from subjects or cell culture and processed for the experiment (i.e. organs, tissue, blood, plasma, cell culture name, etc.), when the samples were taken in the course of a study and protocols used in the sample collection, processing, and/or treatment. Samples are linked to a single study.

Experiments: Describe the purpose of the experiment, measurement technique and links to protocols used in the experiment.

Experiment Samples: The biological samples analyzed in an experiment are linked to the assay reagent, protocol and results via the experiment sample record. Several different template files are available for listing sample details for different assay approaches. An experiment sample should be linked to a single biological sample.

Treatments: Describe the experimental conditions for specific biosamples or experiment samples. Treatments link to experiment samples as well as biosamples if needed.

Protocols: Describe the methods and procedures in studies, subject recruitment/treatment, sample collection/preparation/treatment and experiments. Protocols may be PDF files, Word documents, Excel or other file types.

Reagents: Provide detailed information about the reagents used in an experiment. Since different analysis platforms employ very different reagents, several different template files are available for listing reagent details for different assay approaches.

The table below describes how each template's column is described.

Explanation of the fields used to describe the columns of the Template.

Field Name	Description
Description:	The Description field provides a detailed description of the column of the Template
Required:	The Required Field can either have the values "R" or "O". R means the user must enter data for this column. O means it is optional for the user to enter data for this column.
Lookup:	The Lookup Field can either have the values "N" or "Please refer to Appendix A - {Name of the Lookup table}". "N" means this column does not have a pre-defined set of values and no dropdown will be available in the template. "Please refer to Appendix A - {Name of the Lookup table}" means that this column has a pre-defined set of values and a drop-down will be available for the user to select from in the template. The user can click on the "Please refer to Appendix A-{Name of the Lookup}" link in the LookupField and it will take you to the section in Appendix A where the values for the corresponding lookup table are listed.
Comment:	The Comment Field text will be displayed in the template as a comment for the corresponding column. This field provides more information on what kind of data needs to be set for the column
Database Table:	The Database Table Field is the name of the database table which will store the data entered for this column by the user in the template.
Database Column:	The Database Column Field is the name of the column in the ImmPort database which will store the data entered for this column by the user in the template.
Database Type:	The Database Type Field is the data type of the column in the ImmPort database which will store the data entered for this column by the user in the template.

1.4 Template File Loading Order

ImmPort loads the template files in a specified loading order that is specified below in the following table.

Template File Loading Order
protocols.txt
reagents.array.txt

reagents.elisa.txt
reagents.elispot.txt
reagents.mbaa.txt
reagents.flow_cytometry.txt
reagents.hai.txt
reagents.mass_cytometry.txt
reagents.pcr.txt
reagents.sequencing.txt
reagents.virus_neutralization.txt
reagents.other.txt
reagents.hla_typing_system.txt
reagents.kir_typing_system.txt
reagent_sets.txt
hla_typing_system_allele_ambiguity.txt
kir_typing_system_allele_ambiguity.txt
hla_typing_system_features.txt
treatments.txt
basic_study_design.txt
subjectshuman.txt
subjectsanimal.txt
study_design_edit.txt
adverseevents.txt
interventions.txt
assessments.txt
biosamples.txt
labtestpanels.txt
labtests.txt

labtest_results.txt
experiments.txt
controlsamples.txt
standardcurves.txt
experimentsamples.flow_cytometry.txt
experimentsamples.cytof.txt
experimentsamples.gene_expression.txt
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experimentsamples.mbaa.txt
experimentsamples.mass_spectrometry.txt
experimentsamples.other.txt
experimentsamples.elisa.txt
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experimentsamples.hai.txt
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elisa_results.txt
elispot_results.txt
hai_results.txt
pcr_results.txt
virus_neutralization_results.txt
hla_typing.txt

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kir_typing_results_ebi_results.txt
mbaa_results.txt
fcm_derived_data.txt
cytof_derived_data.txt

The next section describes each data upload template.

2. **adverseEvents.txt**

The Adverse Event Template reports adverse events that are recorded for subjects in a study.

adverseEvents.txt : Adverse Event User-Defined ID	
Description:	The adverse event user defined ID is an identifier chosen by the data provider to refer to a adverse event. The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	adverse_event
Database Column:	user_def_adverse_event_id
Database Column Type:	varchar(150)

adverseEvents.txt : Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject for the reported adverse event.
Required:	Yes
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject for the reported adverse event.

adverseEvents.txt : Study ID	
Description:	An adverse event may be linked to a single study.
Required:	Yes
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession for the study in which the reported adverse event occurred.

adverseEvents.txt : Name Reported	
Description:	The adverse event name is a display name that is available when the data is shared, but it is not referenced by other data..
Required:	Yes
Lookup:	None
Comment:	The adverse event name is an alternate identifier that is visible when the adverse event is shared.
Database Table:	adverse_event
Database Column:	name_reported
Database Column Type:	varchar(126)

adverseEvents.txt : Preferred Name	
Description:	The preferred adverse event name is a term from the MedDRA (www.meddra.org) adverse event classification dictionary. This is an optional term and often updated by ImmPort staff by mapping AE reported names to MedDRA terms.
Required:	No
Lookup:	None
Comment:	The preferred adverse event name is a term from the MedDRA (www.meddra.org) adverse event classification dictionary.
Database Table:	adverse_event
Database Column:	preferred_name
Database Column Type:	varchar(126)

adverseEvents.txt : Severity	
Description:	The severity value is chosen from a list of preferred terms.
Required:	Yes

Controlled Lookup:	Please refer to Appendix A - lk_adverse_event_severity
Comment:	The severity value is chosen from a list of preferred terms.
Database Table:	adverse_event
Database Column:	severity_reported
Database Column Type:	varchar(60)

adverseEvents.txt : Outcome	
Description:	Describe the outcome of the adverse event.
Required:	Yes
Lookup:	None
Comment:	The outcome of the adverse event.
Database Table:	adverse_event
Database Column:	outcome_reported
Database Column Type:	varchar(40)

adverseEvents.txt : Start Day	
Description:	The study day in which the adverse event was initially reported.
Required:	No
Lookup:	None
Comment:	The study day in which the adverse event was initially reported.
Database Table:	adverse_event
Database Column:	start_study_day

Database Column Type:	float

adverseEvents.txt : End Day	
Description:	The study day in which the adverse event ceased.
Required:	No
Lookup:	None
Comment:	The study day in which the adverse event ceased.
Database Table:	adverse_event
Database Column:	end_study_day
Database Column Type:	varchar(22)

adverseEvents.txt : Relation to Study Treatment	
Description:	Was the adverse event believed to be related to a study intervention.
Required:	Yes
Lookup:	None
Comment:	Was the adverse event believed to be related to a study intervention.
Database Table:	adverse_event
Database Column:	relation_to_study_treatment
Database Column Type:	varchar(250)

adverseEvents.txt : Organ or Body System	
Description:	Which portion(s) of the subject was affected by the adverse event.
Required:	No

Lookup:	None
Comment:	Which portion(s) of the subject was affected by the adverse event.
Database Table:	adverse_event
Database Column:	organ_or_body_system_reported
Database Column Type:	varchar(100)

adverseEvents.txt : Event Description	
Description:	A lengthier description of the adverse event.
Required:	No
Lookup:	None
Comment:	A lengthier description of the adverse event.
Database Table:	adverse_event
Database Column:	event_description
Database Column Type:	varchar(256)

adverseEvents.txt : Location of Reaction	
Description:	Where on/in the subject was the adverse event reported.
Required:	No
Lookup:	None
Comment:	Where on/in the subject was the adverse event reported.
Database Table:	adverse_event
Database Column:	location_of_reaction_reported

Database Column Type:	varchar(126)

adverseEvents.txt : Study Treatment Action Taken	
Description:	What was done to address the adverse event.
Required:	No
Lookup:	None
Comment:	What was done to address the adverse event.
Database Table:	adverse_event
Database Column:	study_treatment_action_taken
Database Column Type:	varchar(250)

adverseEvents.txt : Relation to Nonstudy Treatment	
Description:	Was the adverse event related to some non-study intervention.
Required:	No
Lookup:	None
Comment:	Was the adverse event related to some non-study intervention.
Database Table:	adverse_event
Database Column:	relation_to_nonstudy_treatment
Database Column Type:	varchar(250)

adverseEvents.txt : Causality	
Description:	Was the adverse event believed to be casued by a study intervention.
Required:	No

Lookup:	None
Comment:	Was the adverse event believed to be caused by a study intervention.
Database Table:	adverse_event
Database Column:	causality
Database Column Type:	varchar(250)

adverseEvents.txt : Is Serious Event	
Description:	Was the adverse event considered serious.
Required:	No
Lookup:	None
Comment:	Was the adverse event considered serious.
Database Table:	adverse_event
Database Column:	is_serious_event
Database Column Type:	varchar(2)

adverseEvents.txt : Start Time	
Description:	Allows for describing the time during a study day in which an adverse event was reported.
Required:	No
Lookup:	None
Comment:	Allows for describing the time during a study day in which an adverse event was reported.
Database Table:	adverse_event
Database Column:	start_time

Database Column Type:	varchar(40)

adverseEvents.txt : End Time	
Description:	Allows for describing the time during a study day in which an adverse event was reported.
Required:	No
Lookup:	None
Comment:	Allows for describing the time during a study day in which an adverse event was reported.
Database Table:	adverse_event
Database Column:	end_time
Database Column Type:	varchar(40)

adverseEvents.txt : Start Day From Partial Date	
Description:	Is the start of the adverse event for a partial date.
Required:	No
Lookup:	None
Comment:	Is the start of the adverse event for a partial date.
Database Table:	adverse_event
Database Column:	start_day_from_partial_date
Database Column Type:	varchar(40)

adverseEvents.txt : End Day From Partial Date	
Description:	Is the start of the adverse event for a partial date.

Required:	No
Lookup:	None
Comment:	Is the start of the adverse event for a partial date.
Database Table:	adverse_event
Database Column:	end_day_from_partial_date
Database Column Type:	varchar(1)

3. **assessments.txt**

The assessment panels template defines and annotates the assessment panels and the assessment components (results) defines and annotates the assessment for the panel. Assessment panels are often encoded in Case Report Forms (CRFs) and these are linked to a study. Assessment components are the answers to questions or assessments recorded in a CRF for a given subject within a study. The assessment template enables you to define the panel and its components in a single form. The assessment panel can be either new or pre-defined in this template. Any combination is acceptable. The only restriction is that the subject id is the key to template and must be unique within the template. Also, the subject must be preloaded prior to the loading of this template.

3.1. Subject Org Info Meta DataColumn

The Subject Org Info Meta Data Columns include the columns for the combined entity Subject Org Info.

Subject Org Info Meta Data Column assessments.txt : Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject for the subject from which the assessment was completed. A single subject record is permitted.
Required:	Yes
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the assessment was completed.
Database Table:	subject_org_info
Database Column:	user_def_subject_org_id
Database Column Type:	varchar(100)

3.2. Assessment Panel Meta DataColumns

The Assessment Panel Meta Data Columns include the columns for the combined entity Assessment Panel.

Assessment Panel Meta Data Column assessments.txt : Assessment Panel ID	
Description:	The assessment panel user defined ID is an identifier chosen by the data provider to refer to a set of assessments, often organized into a Case Report Form. This ID may be referenced by other data records (e.g. assessment). The user defined ID is not shared
Required:	Yes

Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	assessment_panel
Database Column:	user_def_assessment_panel_id
Database Column Type:	varchar(100)

Assessment Panel Meta Data Column assessments.txt : Study ID	
Description:	An assessment panel may be linked to a single study.
Conditional Required:	Yes for **New Assessment Panel**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the assessment panel is new.

Assessment Panel Meta Data Column assessments.txt : Assessment Name	
Description:	The assessment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Assessment Panel**
Lookup:	None
Comment:	The assessment name is an alternate identifier that is visible when the sample is shared.
Database Table:	assessment_panel
Database Column:	assessment_name_reported
Database Column Type:	varchar(125)

Assessment Panel Meta Data Column assessments.txt : Assessment Type	
Description:	The assessment type is not a constrained list of terms and suggested values include Physical Exam, Questionnaire, Medical History, Family History.
Required:	No
Lookup:	None
Comment:	Suggested values include Physical Exam, Questionnaire, Medical History, Family History.
Database Table:	assessment_panel
Database Column:	assessment_type
Database Column Type:	varchar(125)

Assessment Panel Meta Data Column assessments.txt : Is Standard	
Description:	Is the assessment part of the standard suite of study questions?
Required:	No
Lookup:	None
Comment:	Is the assessment part of the standard suite of study questions?
Database Table:	assessment_panel
Database Column:	is_standard
Database Column Type:	varchar(1)

Assessment Panel Meta Data Column assessments.txt : Status	
Description:	The assessment status is not a constrined list of terms and suggested values include Completed, Partial, and Not Completed.
Required:	No
Lookup:	None

Comment:	The assessment status is not a constrained list of terms and suggested values include Completed, Partial, and Not Completed.
Database Table:	assessment_panel
Database Column:	status
Database Column Type:	varchar(40)

Assessment Panel Meta Data Column assessments.txt : CRF File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter CRF file(s) to link to the assessment panel. Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Database Table:	assessment_panel
Database Column:	crf_filenames
Database Column Type:	

3.3. SeparatorColumn

This column must always appear in the template and must immediately follow after the last meta data column and before the (repeating) result column groups.

Separator Column assessments.txt : Result Separator Column	
Description:	This pseudo column separates meta data from results.
Required:	No
Lookup:	None

Comment:	This pseudo column separates the results (assessment components) from the assessment panel meta data. It must always appear and be the column that appears immediately after the last meta-data column and before any result columns.

3.4. ResultColumns

Each result group (that is, result) consists of a group of the following result columns, where the **first column** of the group must always be '**Assessment Component User-Defined ID**'.

Result Column assessments.txt : Assessment Component User-Defined ID	
Description:	The assessment component user defined ID is an identifier chosen by the data provider to refer to this assessment result. An assessment component is a portion of an assessment panel. The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	assessment_component
Database Column:	user_def_assessment_comp_id
Database Column Type:	varchar(200)

Result Column assessments.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a subjects assessment during the course of a study.
Required:	Yes
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Result Column assessments.txt : Component Name	
Description:	The assessment component name is a display name that is available when the data is shared, but it is not referenced by other data.

Required:	Yes
Lookup:	None
Comment:	The assessment component name is an alternate identifier that is visible when the sample is shared.
Database Table:	assessment_component
Database Column:	assessment_component_name
Database Column Type:	varchar(150)

Result Column assessments.txt : Study Day	
Description:	Study time collected describes the time value for when the assessment was completed.
Required:	No
Lookup:	None
Comment:	Please enter a number.
Database Table:	assessment_component
Database Column:	study_day
Database Column Type:	float

Result Column assessments.txt : Study Day From Partial Date	
Description:	Is the study day value derived from a partial date and therefore of less precision than if the study day was derived from a complete date?
Required:	No
Lookup:	None
Comment:	Please enter a 'Y' or 'N.'
Database Table:	assessment_component

Database Column:	study_day_from_partial_date
Database Column Type:	varchar(1)

Result Column assessments.txt : Age At Onset	
Description:	Please indicate the age at which a condition reported in the assessment occurred.
Required:	Yes
Lookup:	None
Comment:	Please enter a number.
Database Table:	assessment_component
Database Column:	age_at_onset_reported
Database Column Type:	float

Result Column assessments.txt : Age At Onset Unit	
Description:	The time unit for the age of onset value.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Suggested values include Days, Months, Years.
Database Table:	assessment_component
Database Column:	age_at_onset_unit
Database Column Type:	varchar(25)

Result Column assessments.txt : Is Clinically Significant	
Description:	Is the condition reported in the assessment significant for the study analysis?
Required:	No
Lookup:	None
Comment:	Please enter a 'Y' or 'N.'
Database Table:	assessment_component
Database Column:	is_clinically_significant
Database Column Type:	varchar(1)

Result Column assessments.txt : Location of Finding	
Description:	Please use SnoMED CT terms if possible.
Required:	No
Lookup:	None
Comment:	Where on the subject's body does the condition reported in the assessment occur?
Database Table:	assessment_component
Database Column:	location_of_finding_reported
Database Column Type:	varchar(256)

Result Column assessments.txt : Organ or Body System	
Description:	Please use SnoMED CT terms if possible.
Required:	No
Lookup:	None

Comment:	What is the organ or body system affected by the condition reported in the assessment?
Database Table:	assessment_component
Database Column:	organ_or_body_system_reported
Database Column Type:	varchar(100)

Result Column assessments.txt : Result Value	
Description:	The assessment component value is often the response to a question in a CRF.
Required:	No
Lookup:	None
Comment:	The assessment component value is often the response to a question in a CRF.
Database Table:	assessment_component
Database Column:	result_value_reported
Database Column Type:	varchar(250)

Result Column assessments.txt : Result Unit	
Description:	The unit for the assessment value.
Required:	No
Lookup:	None
Comment:	The unit for the assessment value.
Database Table:	assessment_component
Database Column:	result_unit

Database Column Type:	varchar(40)

Result Column assessments.txt : Result Value Category	
Description:	Suggested terms include Mild, Moderate, and Severe.
Required:	No
Lookup:	None
Comment:	A categorical representation of the assessment value.
Database Table:	assessment_component
Database Column:	result_value_category
Database Column Type:	varchar(40)

Result Column assessments.txt : Subject Position	
Description:	Suggested terms include prone, supine, seated, and standing.
Required:	No
Lookup:	None
Comment:	The position the subject was in when the assessment was completed.
Database Table:	assessment_component
Database Column:	subject_position_reported
Database Column Type:	varchar(40)

Result Column assessments.txt : Time of Day	
Description:	There are no preferrred response values.
Required:	No

Lookup:	None
Comment:	When during the day was the assessment completed.
Database Table:	assessment_component
Database Column:	time_of_day
Database Column Type:	varchar(40)

Result Column assessments.txt : Verbatim Question	
Description:	What is the wording of the question to elicit the assessment result?
Required:	No
Lookup:	None
Comment:	What is the actual question in the CRF?
Database Table:	assessment_component
Database Column:	verbatim_question
Database Column Type:	varchar(250)

Result Column assessments.txt : Who is Assessed	
Description:	Assessments can include study subject medical history and/or family history.
Required:	No
Lookup:	None
Comment:	Is the study subject assessed or a member of the study subject's family?
Database Table:	assessment_component
Database Column:	who_is_assessed

Database Column Type:	varchar(40)

4. **basic_study_design.txt**

The basic study design template defines and annotates key elements of a study including the purpose, subject grouping, schedule of events, personnel, and references (weblinks, publications). Use the study_design_edit template to add additional information for a study after a study is defined in ImmPort. The basic study design template consists of several sections or compound templates. Some compound templates are required (e.g. study, arm_or_cohort) and other compound templates are optional (e.g. (study_pubmed)).

4.1. Study

The basic study design template defines and annotates key elements of a study including the purpose, subject grouping, schedule of events, personnel, and references (weblinks, publications). Studies involving seasonal variables (e.g. influenza vaccincations) should be defined to ImmPort as single season studies with as many studies defined as seasons included in the research.
The compound template Study is required.

Study : User_Def_Study_ID	
Description:	The study user defined ID is an identifier chosen by the data provider to refer to a study design. This ID may be referenced by other data records (e.g. arm). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	study
Database Column:	user_def_study_id
Database Column Type:	varchar(150)

Study : Brief_Title	
Description:	The brief title will be displayed on ImmPort wherever the study is described.
Required:	Yes
Lookup:	None
Comment:	The brief title serves as a working title for a study.
Database Table:	study

Database Column:	brief_title
Database Column Type:	varchar(250)

Study : Official_Title	
Description:	The official study title is displayed on the ImmPort study detail page.
Required:	Yes
Lookup:	None
Comment:	The official study title may be the same as the brief title, but is often more descriptive.
Database Table:	study
Database Column:	official_title
Database Column Type:	varchar(500)

Study : Study_Type	
Description:	The study types are adapted from Clinicaltrials.gov terms.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_study_type
Comment:	Please choose from the drop down list.
Database Table:	study
Database Column:	study_type
Database Column Type:	varchar(50)

Study : Brief_Description	
Description:	A brief study description highlights the essential features of a study.
Required:	Yes
Lookup:	None
Comment:	Summarize the goals, methods and results of the study.
Database Table:	study
Database Column:	brief_description
Database Column Type:	varchar(4000)

Study : Detailed_Description	
Description:	The detailed description can be formatted with html tags to improve legibility. Embedded new line characters should be removed.
Required:	No
Lookup:	None
Comment:	The detailed description supports a lengthy description of the goals and methods of the study.
Database Table:	study
Database Column:	detailed_description
Database Column Type:	clob

Study : Hypothesis	
Description:	The hypothesis can be formatted with html tags to improve legibility. Embedded new line characters should be removed.
Required:	Yes
Lookup:	None

Comment:	The explanatory proposition(s) being tested by the research study.
Database Table:	study
Database Column:	hypothesis
Database Column Type:	varchar(4000)

Study : Objectives	
Description:	The objectives can be formatted with html tags to improve legibility. Embedded new line characters should be removed.
Required:	Yes
Lookup:	None
Comment:	The goals of the research study.
Database Table:	study
Database Column:	objectives
Database Column Type:	clob

Study : Endpoints	
Description:	The endpoints can be formatted with html tags to improve legibility. Embedded new line characters should be removed.
Required:	Yes
Lookup:	None
Comment:	Endpoints include assessments, lab tests and assays that are part of a study design.
Database Table:	study
Database Column:	endpoints

Database Column Type:	clob

Study : Sponsoring_Organization	
Description:	The organization that provides funding and support for the study.
Required:	Yes
Lookup:	None
Comment:	The organization that provides funding and support for the study.
Database Table:	study
Database Column:	sponsoring_organization
Database Column Type:	varchar(250)

Study : Target_Enrollment	
Description:	The number of subjects proposed to be enrolled in the study.
Required:	No
Lookup:	None
Comment:	The number of subjects proposed to be enrolled in the study.
Database Table:	study
Database Column:	target_enrollment
Database Column Type:	integer

Study : Condition_Studied	
Description:	A short description of what is being researched or evaluated in the study (e.g. influenza).

Required:	Yes
Lookup:	None
Comment:	A short description of what is being researched or evaluated in the study (e.g. influenza vaccine).
Database Table:	study
Database Column:	condition_studied
Database Column Type:	varchar(1000)

Study : Minimum_Age	
Description:	The minimum age of subjects enrolled in the study.
Required:	No
Lookup:	None
Comment:	The minimum age of subjects enrolled in the study.
Database Table:	study
Database Column:	minimum_age
Database Column Type:	varchar(40)

Study : Maximum_Age	
Description:	The maximum age of subjects enrolled in the study.
Required:	No
Lookup:	None
Comment:	The maximum age of subjects enrolled in the study.
Database Table:	study

Database Column:	maximum_age
Database Column Type:	varchar(40)

Study : Age_Unit	
Description:	The unit of time used to describe the subject's age in the study.
Required:	No
Lookup:	None
Comment:	The unit of time used to describe the subject's age in the study.
Database Table:	study
Database Column:	age_unit
Database Column Type:	varchar(50)

Study : Actual_Start_Date	
Description:	The date format is either dd-MMM-yy or dd-MMM-yyyy wwhere day (dd) is one or two digits 1..31 appropriate to the month, month (MMM) is case-insensitive value (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec), and year is either (yy) two digits, for example 05 means 2005, and 96 means 1996, or (yyyy) is four digit year, for example 2005.
Required:	Yes
Lookup:	None
Comment:	The commencement time point of the study. The date format is either dd-MMM-yy or dd-MMM-yyyy.
Database Table:	study
Database Column:	actual_start_date
Database Column Type:	date

Study : Intervention_Agent	
Description:	If a study is interventional or has an interventional component, a short descriptive name of the intervention agent is requested.
Required:	No
Lookup:	None
Comment:	IA brief description of the study's interventional component (e.g. influenza vaccine).
Database Table:	study
Database Column:	intervention_agent
Database Column Type:	varchar(1000)

4.2. Arm_or_cohort

The compound template Arm_or_cohort is required.

Arm_or_cohort : User_Def_Arm_Or_Cohort_ID	
Description:	The study's arm(s) or cohort(s) group subjects by criteria relevant to the study (e.g. age, condition) and/or treatments or interventions. Insert rows in the template to define additional arms or cohorts linked to the study. Use the study_design_edit template to add additional records after a study is defined in ImmPort.
Required:	Yes
Lookup:	None
Comment:	The arm or cohort user defined ID is an identifier chosen by the data provider to refer to a subject grouping in the study document. This ID may be referenced by other data records (e.g. subjects). The user defined ID is not shared.
Database Table:	arm_or_cohort
Database Column:	user_def_arm_or_cohort_id
Database Column Type:	varchar(100)

Arm_or_cohort : Name	
Description:	The arm or cohort name is not referenced by other data records.
Required:	Yes
Lookup:	None
Comment:	The arm or cohort name is an alternate identifier that is visible when the study is shared.
Database Table:	arm_or_cohort
Database Column:	name
Database Column Type:	varchar(126)

Arm_or_cohort : Description	
Description:	The description should expand any abbreviations used in the arm or cohort name. For example for an observational study with a cohort whose name was "ADEH+", the description would be "Atopic dermatitis with eczema herpeticum".
Required:	Yes
Lookup:	None
Comment:	The description should expand any abbreviations used in the arm or cohort name.
Database Table:	arm_or_cohort
Database Column:	description
Database Column Type:	varchar(2000)

Arm_or_cohort : Population_Selection_Rule

Description:	For an observational study the rule may either be "Subjects selected by phenotypic characteristics", or the selection rule can provide additional information about population characteristics unique to the cohort. For an interventional study with the populations chosen by randomization the randomization rule should be specified (e.g. "randomized (1:1:1:1) to four treatment groups"). For an interventional study using rules other randomization these rules should be stated (e.g. "Selected by physician").
Required:	Yes
Lookup:	None
Comment:	Describe how subjects were assigned to arms or cohorts.
Database Table:	arm_or_cohort
Database Column:	population_selection_rule
Database Column Type:	varchar(500)

Arm_or_cohort : Sort_Order	
Description:	Use this field to indicate if there is a preferred sort order of arms or cohorts. The contents of the field should be a positive whole number. Larger numbers are displayed later in Arm or Cohort lists.
Required:	Yes
Lookup:	None
Comment:	The sort order column controls the order in which arms or Cohorts are listed in the ImmPort display.
Database Table:	arm_or_cohort
Database Column:	sort_order
Database Column Type:	integer

Arm_or_cohort : Type

Description:	For an interventional study, the type defines the treatment/control attributes of the arms. The attributes are selected from the values listed below (a study may have more than one arm of a given value). Clinical studies often use the following terms. Experimental - Arm for procedure or drug being evaluated. Active Comparator - arm receiving "standard of care" treatment. Placebo Comparator - arm receiving placebo treatment. Sham Comparator - arm receiving a sham procedure such as a surgery or a sham device. No Intervention - arm receiving neither "standard of care" treatment a placebo, or sham procedure or device. For an observational study, the type should be Observational - All arms are observing differences in cohorts
Required:	No
Lookup:	None
Comment:	Example clinical study values: Observational, Experimental, Active Comparator, Placebo Comparator, Sham Comparator
Database Table:	arm_or_cohort
Database Column:	type
Database Column Type:	varchar(20)

4.3. Study_personnel

The compound template Study_personnel is required.

Study_personnel : User_Def_Study_Personnel_ID	
Description:	The personnel user defined ID is an identifier chosen by the data provider to refer to personnel who may be contacted for more details about the study document. If more than one study personnel record is to be defined, copy the block of rows from User_Def_Study_Personnel_ID to Site_Name for each additional study personnel record. Use the study_design_edit template to add additional records after a study is defined in ImmPort.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	study_personnel
Database Column:	user_def_study_personnel_id

Database Column Type:	varchar(100)

Study_personnel : Honorific	
Description:	Usually, the education achievement level of the person.
Required:	No
Lookup:	None
Comment:	Usually, the education achievement level of the person.
Database Table:	study_personnel
Database Column:	honorific
Database Column Type:	varchar(20)

Study_personnel : Last_Name	
Description:	The last name of the study personnel being described.
Required:	Yes
Lookup:	None
Comment:	The last name of the study personnel being described.
Database Table:	study_personnel
Database Column:	last_name
Database Column Type:	varchar(40)

Study_personnel : First_Name	
Description:	The first name of the study personnel being described.
Required:	Yes

Lookup:	None
Comment:	The first name of the study personnel being described.
Database Table:	study_personnel
Database Column:	first_name
Database Column Type:	varchar(40)

Study_personnel : Suffixes	
Description:	Suffixes that are part of the study personnel's name being described.
Required:	No
Lookup:	None
Comment:	Suffixes that are part of the study personnel's name being described.
Database Table:	study_personnel
Database Column:	suffixes
Database Column Type:	varchar(40)

Study_personnel : Organization	
Description:	The organization with whom the study personnel being described is affiliated.
Required:	Yes
Lookup:	None
Comment:	The organization with whom the study personnel being described is affiliated.
Database Table:	study_personnel
Database Column:	organization

Database Column Type:	varchar(125)

Study_personnel : Email	
Description:	Contact information of the study personnel being described.
Required:	Yes
Lookup:	None
Comment:	Contact information of the study personnel being described.
Database Table:	study_personnel
Database Column:	email
Database Column Type:	varchar(40)

Study_personnel : Title_In_Study	
Description:	The role the personnel play in the study as defined by the research team.
Required:	Yes
Lookup:	None
Comment:	The role the personnel play in the study as defined by the research team.
Database Table:	study_personnel
Database Column:	title_in_study
Database Column Type:	varchar(100)

Study_personnel : Role_In_Study	
Description:	The ImmPort display will show the personnel listed as 'PI' in the study.
Required:	Yes

Controlled Lookup:	Please refer to Appendix A - lk_personnel_role
Comment:	Please use the drop down list.
Database Table:	study_personnel
Database Column:	role_in_study
Database Column Type:	varchar(5)

Study_personnel : Site_Name	
Description:	Enter the site name if there is a need to further differentiate the affiliation of the study personnel form the Organization.
Required:	Yes
Lookup:	None
Comment:	Enter the site name if there is a need to further differentiate the affiliation of the study personnel from the Organization.
Database Table:	study_personnel
Database Column:	site_name
Database Column Type:	varchar(100)

4.4. Planned_visit

The compound template Planned_visit is required.

Planned_visit : User_Def_Planned_Visit_ID	
Description:	The planned visit user defined ID is an identifier chosen by the data provider to refer to a planned visit. This ID may be referenced by other data records (e.g. biological samples). The user defined ID is not shared. Insert rows in the template to define additional planned visits linked to the study. Use the study_design_edit template to add additional records after a study is defined in ImmPort.
Required:	Yes

Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	planned_visit
Database Column:	user_def_planned_visit_id
Database Column Type:	varchar(100)

Planned_visit : Visit_Name	
Description:	the visit name should indicate the purpose of the visit (e.g. screening, assessment, inoculation, sample drawn). The visit name is not referenced by other data records.
Required:	Yes
Lookup:	None
Comment:	The visit name is an alternate identifier that is visible when the protocol is shared.
Database Table:	planned_visit
Database Column:	visit_name
Database Column Type:	varchar(125)

Planned_visit : Visit_Order_Number	
Description:	This is a positive whole number value.
Required:	Yes
Lookup:	None
Comment:	The order of the visit within the study design schedule.
Database Table:	planned_visit

Database Column:	visit_order_number
Database Column Type:	integer

Planned_visit : Min_Start_Day	
Description:	This is a positive or negative numeric value.
Required:	Yes
Lookup:	None
Comment:	The minimum start day for a visit as defined in the study schedule.
Database Table:	planned_visit
Database Column:	min_start_day
Database Column Type:	float

Planned_visit : Max_Start_Day	
Description:	This is a positive or negative numeric value. If no value is entered, the maximum start day will be set equal to the minimum start day.
Required:	No
Lookup:	None
Comment:	The maximum start day for a visit as defined in the study schedule.
Database Table:	planned_visit
Database Column:	max_start_day
Database Column Type:	float

Planned_visit : Start_Rule	
Description:	Enter a start rule only if it is more interesting than "subject has arrived for a scheduled visit".
Required:	No
Lookup:	None
Comment:	Enter a start rule only if it is more interesting than "subject has arrived for a scheduled visit".
Database Table:	planned_visit
Database Column:	start_rule
Database Column Type:	varchar(256)

Planned_visit : End_Rule	
Description:	Enter an end rule only if it is more interesting than "subject has arrived for a scheduled visit".
Required:	No
Lookup:	None
Comment:	Enter an end rule only if it is more interesting than "subject has arrived for a scheduled visit".
Database Table:	planned_visit
Database Column:	end_rule
Database Column Type:	varchar(256)

4.5. Inclusion_exclusion

The compound template Inclusion_exclusion is required.

Inclusion_exclusion : User_Def_Criterion_ID

Description:	The inclusion or exclusion user defined ID is an identifier chosen by the data provider to refer to a criterion used to determine whether a subject may be enrolled in a study. Use the study_design_edit template to add additional records after a study is defined in ImmPort.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	inclusion_exclusion
Database Column:	user_def_criterion_id
Database Column Type:	varchar(100)

Inclusion_exclusion : Criterion	
Description:	One or more criterion must be described to decide whether a subject may be enrolled in a study.
Required:	Yes
Lookup:	None
Comment:	The criterion describes the parameter used to decide if a subject may be enrolled in a study.
Database Table:	inclusion_exclusion
Database Column:	criterion
Database Column Type:	varchar(750)

Inclusion_exclusion : Criterion_Category	
Description:	The criterion category is selected form a preferred list of terms.
Required:	Yes

Controlled Lookup:	Please refer to Appendix A - lk_criterion_category
Comment:	There are two values to choose from: inclusion or exclusion.
Database Table:	inclusion_exclusion
Database Column:	criterion_category
Database Column Type:	varchar(40)

4.6. Study_2_protocol

The compound template Study_2_protocol is required.

Study_2_protocol : User_Def_Prot_ID	
Description:	The protocol ID for the study. Use the study_design_edit template to add additional records after a study is defined in ImmPort.
Required:	Yes
Lookup:	None
Comment:	The protocol ID for the study.

4.7. Study_file

The compound template Study_file is optional.

Study_file : File_Name	
Description:	If there are additional files (e.g. as data dictionaries, CRFs, custom formatted lab tests or assessments) that should be linked to the study please indicate them in this block. Insert rows in the template to link additional files to the study. Use the study_design_edit template to add additional records after a study is defined in ImmPort. The file size name limit is 250 characters. For a given study, all file names for study_file must be unique.
Required:	Yes
Lookup:	None
Comment:	The name of the file, including file extension, that is to be linked to the study. The file size name limit is 250 characters. For a given study, all file names for study_file must be unique.

Database Table:	study_file
Database Column:	file_name
Database Column Type:	varchar(250)

Study_file : Description	
Description:	A brief description of the file.
Required:	Yes
Lookup:	None
Comment:	A brief description of the file.
Database Table:	study_file
Database Column:	description
Database Column Type:	varchar(2000)

Study_file : Study_File_Type	
Description:	Additional study data or study descriptions are current preferred terms.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_study_file_type
Comment:	Please choose from the drop down list.
Database Table:	study_file
Database Column:	study_file_type
Database Column Type:	varchar(50)

4.8. Study_link

The compound template Study_link is optional.

Study_link : Link_Name	
Description:	The name of the website to which the link refers. Use the study_design_edit template to add additional records after a study is defined in ImmPort.
Required:	Yes
Lookup:	None
Comment:	The name of the website to which the link refers.
Database Table:	study_link
Database Column:	link_name
Database Column Type:	varchar(500)

Study_link : Link_Value	
Description:	If this is a clinical trial, please include the clinicalTrial.gov URL.
Required:	Yes
Lookup:	None
Comment:	Define websites that are linked to the study. Insert rows in the template to define additional websites linked to the study.
Database Table:	study_link
Database Column:	link_value
Database Column Type:	varchar(2000)

4.9. Study_pubmed_info

The compound template Study_pubmed_info is optional.

Study_pubmed_info : Pubmed_ID	
Description:	The Pubmed or PubMedCentral identifier of an article that includes data from this study. Use the study_design_edit template to add additional records after a study is defined in ImmPort.
Required:	Yes
Lookup:	None
Comment:	The Pubmed or PubMedCentral identifier of an article that includes data from this study.
Database Table:	study_pubmed_info
Database Column:	pubmed_id
Database Column Type:	varchar(16)

Study_pubmed_info : Pubmed_Title	
Description:	The title of an article that includes data from this study.
Required:	No
Lookup:	None
Comment:	The title of an article that includes data from this study.
Database Table:	study_pubmed_info
Database Column:	pubmed_title
Database Column Type:	varchar(4000)

Study_pubmed_info : Journal	
Description:	The journal name that publishes an article that includes data from this study.
Required:	No
Lookup:	None

Comment:	The journal name that publishes an article that includes data from this study.
Database Table:	study_pubmed_info
Database Column:	journal
Database Column Type:	varchar(250)

Study_pubmed_info : Year	
Description:	The article publication year.
Required:	No
Lookup:	None
Comment:	The article publication year.
Database Table:	study_pubmed_info
Database Column:	year
Database Column Type:	varchar(4)

Study_pubmed_info : Month	
Description:	The article publication month.
Required:	No
Lookup:	None
Comment:	The article publication month.
Database Table:	study_pubmed_info
Database Column:	month
Database Column Type:	varchar(12)

Study_pubmed_info : Issue	
Description:	The journal's issue number.
Required:	No
Lookup:	None
Comment:	The journal's issue number.
Database Table:	study_pubmed_info
Database Column:	issue
Database Column Type:	varchar(20)

Study_pubmed_info : Pages	
Description:	The journal's page number.
Required:	No
Lookup:	None
Comment:	The journal's page number.
Database Table:	study_pubmed_info
Database Column:	pages
Database Column Type:	varchar(20)

Study_pubmed_info : Authors	
Description:	The article's authors.
Required:	No
Lookup:	None

Comment:	The article's authors.
Database Table:	study_pubmed_info
Database Column:	authors
Database Column Type:	varchar(4000)

5. **bioSamples.txt**

The biological sample template is a legacy template that defines and annotates the types of samples derived from study subjects and when during the study schedule the sample was derived. The function of this template is also captured in the experiment samples template. This template will continue to be supported for the foreseeable future to support backward compatibility.

bioSamples.txt : Biological Sample User-Defined ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

bioSamples.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

bioSamples.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

bioSamples.txt : Biological Sample Name	
Description:	The biological sample name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

bioSamples.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No

Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

bioSamples.txt : Biological Sample Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Required:	Yes
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession.

bioSamples.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Required:	Yes
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

bioSamples.txt : Study ID	
Description:	A biological sample may be linked to a single study.
Required:	Yes
Lookup:	None

Comment:	Please enter either a study user defined ID or ImmPort accession.

bioSamples.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Required:	Yes
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

bioSamples.txt : Treatment ID(s)	
Description:	Please enter either a treatment user defined ID or ImmPort accession if the sample was manipulated in a manner significant to the assay prior to the assay being conducted. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Required:	No
Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

bioSamples.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Required:	Yes
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

bioSamples.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

bioSamples.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

bioSamples.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No

Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

6. **controlSamples.txt**

The control sample template defines and annotates the control samples included in MBAA assays. Control samples are not assumed to be of biologic origin. This template requires that the control sample be always new, while the experiment can be new or pre-defined. The control sample is the key to the templates and must be unique within the template.

6.1. Control Sample Meta DataColumns

The Control Sample Meta Data Columns include the columns for the combined entity Control Sample.

Control Sample Meta Data Column controlSamples.txt : Control Sample ID	
Description:	The control sample user defined ID is an identifier chosen by the data provider. This ID may be referenced by other data records (e.g. MBAA results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	control_sample
Database Column:	user_defined_id
Database Column Type:	varchar(100)

Control Sample Meta Data Column controlSamples.txt : Source	
Description:	The manufacturer or lab where the control sample was obtained.
Conditional Required:	Yes for **New Control Sample**
Lookup:	None
Comment:	The manufacturer or lab where the control sample was obtained.
Database Table:	control_sample
Database Column:	source
Database Column Type:	varchar(100)

Control Sample Meta Data Column controlSamples.txt : Catalog ID	
Description:	The manufacturer or source lab's identifier.
Conditional Required:	Yes for **New Control Sample**
Lookup:	None
Comment:	The manufacturer or source lab's identifier.
Database Table:	control_sample
Database Column:	catalog_id
Database Column Type:	varchar(100)

Control Sample Meta Data Column controlSamples.txt : Dilution Factor	
Description:	The dilution factor indicates how much a sample was diluted before it was assayed.
Conditional Required:	Yes for **New Control Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	control_sample
Database Column:	dilution_factor
Database Column Type:	varchar(100)

Control Sample Meta Data Column controlSamples.txt : Assay ID	
Description:	The assay ID represents the plate or array ID where standard curves, control samples, and experiment samples were collected and assayed. This ID will be used to link standard curves, control samples, and experiment samples results.

Conditional Required:	Yes for **New Control Sample**
Lookup:	None
Comment:	The assay ID represents the plate or array ID where standard curves, control samples, and experiment samples were collected and assayed. This ID will be used to link standard curves, control samples, and experiment samples results.
Database Table:	control_sample
Database Column:	assay_id
Database Column Type:	varchar(100)

Control Sample Meta Data Column controlSamples.txt : Assay Group ID	
Description:	The assay group ID represents a collection of plates or arrays. This ID may be used to link collections of standard curves, control samples, and experiment samples results.
Required:	No
Lookup:	None
Comment:	The assay group ID represents a collection of plates or arrays. This ID may be used to link collections of standard curves, control samples, and experiment samples results.
Database Table:	control_sample
Database Column:	assay_group_id
Database Column Type:	varchar(100)

Control Sample Meta Data Column controlSamples.txt : Immport Template?

Description:	The format of the result file depends on the assay type. ImmPort supports results templates (MBAA_Results.txt) for some of the commonly used immunological assay methods. These template facilitate the sharing and re-use of results data in a standard format. If the result file is the ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the "Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.
Conditional Required:	Yes for **New Control Sample**
Controlled Lookup:	Please refer to Appendix A - lk_yes_no
Comment:	The format of the result file depends on the assay type. ImmPort supports results templates (MBAA_Results.txt) for some of the commonly used immunological assay methods. These templates facilitate the sharing and re-use of results data in a standard format. If the result file is the ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the "Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.

Control Sample Meta Data Column controlSamples.txt : Result File Name	
Description:	This is expected to be the MBAA_Results.txt ImmPort template. The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Enter the file name (including file extension) that contains assay results for the control sample. The file size name limit is 240 characters.

Control Sample Meta Data Column controlSamples.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	control_sample

Database Column:	lot_number
Database Column Type:	varchar(250)

Control Sample Meta Data Column controlSamples.txt : Additional Result File Names	
Description:	HIPC recommends including bead level result files if they are available. Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	HIPC recommends including bead level result files if they are available. The file size name limit is 240 characters.

6.2. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column controlSamples.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column controlSamples.txt : Study ID	
Description:	An experiment may be linked to a single study.

Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession.

Experiment Meta Data Column controlSamples.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession.

Experiment Meta Data Column controlSamples.txt : Experiment Name	
Description:	The experiment name is not referenced by other data records.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column controlSamples.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No

Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column controlSamples.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column controlSamples.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment

Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

7. **CyTOF_Derived_data.txt**

CyTOF_Derived_data.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

CyTOF_Derived_data.txt : Population Name ; Gating Definition	
Description:	The drop down list provides a list of cell population name, gating definition pairs separated by a semi-colon as recommended by the HIPC Standards Working Group and based on Cell Ontology terms. Please select a name, gating definition pair if it matches your cell population name, gating definition or enter a name, gating definition pair separated by a semi-colon (;) if there is not an appropriate one provided. The population name and gating definition each have a limit of 500 characters.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_cell_population with preferred column(s) population_name_preferred and population_defnition_preferred
Comment:	This column combines the population name and gating definition. The population name is the type of cells whose count is reported. The gating definition is the marker gating definition of the cell type whose count is reported. Please select a 'population name ; gating definition' from the drop down list if it matches your cell population name and gating definition separated by a semi-colon(;) or enter a name and gating definition separated by a semi-colon (;) if there is not an appropriate one provided. The population name and gating definition each have a limit of 500 characters.

CyTOF_Derived_data.txt : Base Parent Population	
Description:	The drop down provides the base parent population. Please select a name if it matches your base parent population name or enter a name if there is not an appropriate one provided.
Required:	No
Preferred Lookup:	Please refer to Appendix A - lk_base_pop_name with preferred column(s) base_parent_pop_preferred
Comment:	The base parent population name. Please select a population name from the drop down list if it matches your base parent population name or enter a name if there is not an appropriate one provided.

Database Table:	facs_analyzed_result
Database Column:	base_parent_population
Database Column Type:	varchar(500)

CyTOF_Derived_data.txt : Population Statistic (count, percentile, etc)	
Description:	The count of the cell type defined by the marker gating definition.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	facs_analyzed_result
Database Column:	population_cell_number
Database Column Type:	float

CyTOF_Derived_data.txt : Population Statistic Unit	
Description:	The unit used to describe the cell count. Please select a unit from the drop down list if the definition matches your unit name or enter a unit if there is not an appropriate one provided.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_cell_pop_statistic_unit with preferred column(s) preferred_statistic_unit
Comment:	The unit used to describe the cell count. Please select a unit from the list provided if the definition matches your unit name or enter a unit if there is not an appropriate one provided.
Database Table:	facs_analyzed_result
Database Column:	population_cell_number_unit

Database Column Type:	varchar(50)

CyTOF_Derived_data.txt : Workspace File	
Description:	An XML formatted export of the analysis program is expected (e.g. an xml format of a FlowJo .jo or .wsp file). The file size name limit is 240 characters.
Required:	Yes
Lookup:	None
Comment:	The name of the file that stores the interpreted CyTOF results from the analysis program. The file size name limit is 240 characters.

CyTOF_Derived_data.txt : Comments	
Description:	Comments captures additional descriptive information.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information.
Database Table:	facs_analyzed_result
Database Column:	comments
Database Column Type:	varchar(500)

8. **ELISA_Results.txt**

ELISA_Results.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

ELISA_Results.txt : Analyte	
Description:	The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	The analyte is the target (e.g protein, DNA, RNA) that is being assayed by the reagent. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_elisa_mbaa_result
Database Column:	analyte
Database Column Type:	varchar(100)

ELISA_Results.txt : Calculated Concentration Value	
Description:	The analyte's concentration value.
Required:	Yes
Lookup:	None
Comment:	The analyte's concentration value.

Database Table:	exp_elisa_mbaa_result
Database Column:	cal_con_value
Database Column Type:	float

ELISA_Results.txt : Calculated Concentration Unit	
Description:	The analyte's concentration unit.
Required:	Yes
Lookup:	None
Comment:	The analyte's concentration unit.
Database Table:	exp_elisa_mbaa_result
Database Column:	cal_con_unit
Database Column Type:	varchar(50)

ELISA_Results.txt : Comment	
Description:	Unstructured text to further describe the result.
Required:	No
Lookup:	None
Comment:	Unstructured text to further describe the result.
Database Table:	exp_elisa_mbaa_result
Database Column:	qualitative_result
Database Column Type:	varchar(500)

9. **ELISPOT_Results.txt**

ELISPOT_Results.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

ELISPOT_Results.txt : Analyte	
Description:	The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	The analyte is the target (e.g protein, DNA, RNA) that is being assayed by the reagent. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_elispot_result
Database Column:	analyte
Database Column Type:	varchar(100)

ELISPOT_Results.txt : Number Of Spots Per Well	
Description:	The number of spots generated by the reporting assay reagent.
Required:	Yes
Lookup:	None
Comment:	A number is expected.

Database Table:	exp_elispot_result
Database Column:	num_well
Database Column Type:	float

ELISPOT_Results.txt : Cell number per well Value	
Description:	The number of live cells assayed per well.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_elispot_result
Database Column:	base_parent_pop_value
Database Column Type:	float

ELISPOT_Results.txt : Cell number per well Unit	
Description:	The unit used to measure the cells added to each well.
Required:	Yes
Lookup:	None
Comment:	The unit used to measure the cells added to each well.
Database Table:	exp_elispot_result
Database Column:	base_parent_pop_unit
Database Column Type:	varchar(100)

ELISPOT_Results.txt : Comment	
Description:	Unstructured text to further describe the result
Required:	No
Lookup:	None
Comment:	Unstructured text to further describe the result
Database Table:	exp_elispot_result
Database Column:	auto_desc_phrase
Database Column Type:	varchar(250)

10. **experiments.txt**

The experiments template is a legacy template that defines and annotates the mechanistic assays performed on samples. The function of this template is also captured in the experiment samples template. This template will continue to be supported for the foreseeable future to support backward compatibility.

experiments.txt : Experiment User-Defined ID	
Description:	The experiment user defined ID is an identifier chosen by the data provider to refer to an experiment. This ID may be referenced by other data records (e.g. experiment sample, control sample, standard curve). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

experiments.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	Yes
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

experiments.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

experiments.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

experiments.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Required:	Yes

Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

experiments.txt : Study ID	
Description:	An experiment may be linked to a single study.
Required:	Yes
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession for the study in which the experiment occurs.

experiments.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession. One or more identifiers can be entered per subject. Separate identifiers by semicolon (;).
Required:	Yes
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession.

experiments.txt : Hypothesis	
Description:	The explanatory proposition(s) being tested by the experiment.
Required:	No
Lookup:	None
Comment:	The explanatory proposition(s) being tested by the experiment.

Database Table:	experiment
Database Column:	hypothesis
Database Column Type:	varchar(4000)

experiments.txt : Rationale	
Description:	Describe the reason for the experiment.
Required:	No
Lookup:	None
Comment:	Describe the reason for the experiment.
Database Table:	experiment
Database Column:	rationale
Database Column Type:	varchar(4000)

experiments.txt : Keywords	
Description:	Provide keywords to describe the experiment.
Required:	No
Lookup:	None
Comment:	Provide keywords to describe the experiment.
Database Table:	experiment
Database Column:	keywords
Database Column Type:	varchar(500)

experiments.txt : Quality Control Measures	
Description:	Describe QC measures that are part of the experiment design.
Required:	No
Lookup:	None
Comment:	Describe QC measures that are part of the experiment design.
Database Table:	experiment
Database Column:	qc_measures
Database Column Type:	varchar(500)

11. **experimentSamples.CYTOF.txt**

The CYTOF experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

11.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.CYTOF.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.CYTOF.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

11.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.CYTOF.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.CYTOF.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.CYTOF.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None

Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.CYTOF.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.CYTOF.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.CYTOF.txt : Additional Result File Names

Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.CYTOF.txt : Result File Name	
Description:	The primary output for CYTOF assays is a file in .fcs format. The file size name limit is 240 characters.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	The primary output for CYTOF assays is a file in .fcs format. The file size name limit is 240 characters.

11.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id

Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name

Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Study Time Collected Unit

Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.CYTOF.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None

Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

11.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.CYTOF.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.CYTOF.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.

Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.CYTOF.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.CYTOF.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name

Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.CYTOF.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

12. **experimentSamples.ELISA.txt**

The ELISA experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. More than one analyte's results per assayed sample may be reported by copying the group of columns 'Analyte', 'Calculated Concentration Value', and 'Calculated Concentration Unit' needed to describe each assay result. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment is new, then you must complete the required columns to describe them. When defining a new experiment or biological sample, it is only necessary to complete the required descriptive columns once per experiment or biological sample. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

12.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.ELISA.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.ELISA.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

12.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.ELISA.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.ELISA.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.ELISA.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.ELISA.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.ELISA.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.ELISA.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

12.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**

Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.

Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Planned Visit ID

Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit

Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.ELISA.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

12.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.ELISA.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.ELISA.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.ELISA.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.

Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.ELISA.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.ELISA.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.

Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

12.5. SeparatorColumn

This column must always appear in the template and must immediately follow after the last meta data column and before the (repeating) result column groups.

Separator Column experimentSamples.ELISA.txt : Result Separator Column	
Description:	This pseudo column separates meta data from results.
Required:	No
Lookup:	None
Comment:	This pseudo column separates the results (lab tests) from the lab test panel meta data. It must always appear and be the column that appears immediately after the last meta-data column and before any result columns.

12.6. ResultColumns

Each result group (that is, result) consists of a group of the following result columns, where the **first column** of the group must always be '**Analyte**'.

Result Column experimentSamples.ELISA.txt : Analyte	
Description:	The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	This COLUMN must appear as the FIRST COLUMN for a repeating result column group. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_elisa_mbaa_result

Database Column:	analyte
Database Column Type:	varchar(100)

Result Column experimentSamples.ELISA.txt : Calculated Concentration Value	
Description:	The analyte's concentration value.
Required:	Yes
Lookup:	None
Comment:	The analyte's concentration value.
Database Table:	exp_elisa_mbaa_result
Database Column:	cal_con_value
Database Column Type:	float

Result Column experimentSamples.ELISA.txt : Calculated Concentration Unit	
Description:	The analyte's concentration unit.
Required:	Yes
Lookup:	None
Comment:	The analyte's concentration unit.
Database Table:	exp_elisa_mbaa_result
Database Column:	cal_con_unit
Database Column Type:	varchar(50)

Result Column experimentSamples.ELISA.txt : Comments

Description:	Comments captures additional descriptive information that is added to the result.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information that is added to the result.
Database Table:	exp_elisa_mbaa_result
Database Column:	comments
Database Column Type:	varchar(500)

13. **experimentSamples.ELISPOT.txt**

The ELISPOT experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. More than one analyte's results per assayed sample may be reported by copying the group of columns 'Analyte', 'Number Of Spots Per Well', and 'Cell number per well Value', 'Cell number per well Unit' needed to describe each assay result. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment is new, then you must complete the required columns to describe them. When defining a new experiment or biological sample, it is only necessary to complete the required descriptive columns once per experiment or biological sample. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

13.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.ELISPOT.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.ELISPOT.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

13.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.ELISPOT.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.ELISPOT.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.ELISPOT.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.ELISPOT.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.ELISPOT.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.ELISPOT.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

13.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**

Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.

Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Planned Visit ID

Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample

Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.ELISPOT.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

13.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.ELISPOT.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.ELISPOT.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.ELISPOT.txt : Description

Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.ELISPOT.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.ELISPOT.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech

Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

13.5. SeparatorColumn

This column must always appear in the template and must immediately follow after the last meta data column and before the (repeating) result column groups.

Separator Column experimentSamples.ELISPOT.txt : Result Separator Column	
Description:	This pseudo column separates meta data from results.
Required:	No
Lookup:	None
Comment:	This pseudo column separates the results (lab tests) from the lab test panel meta data. It must always appear and be the column that appears immediately after the last meta-data column and before any result columns.

13.6. ResultColumns

Each result group (that is, result) consists of a group of the following result columns, where the **first column** of the group must always be '**Analyte**'.

Result Column experimentSamples.ELISPOT.txt : Analyte	
Description:	The molecule or entity being measured. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	The molecule or entity being measured. This COLUMN must appear as the FIRST COLUMN for a repeating result column group. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.

Database Table:	exp_elispot_result
Database Column:	analyte
Database Column Type:	varchar(100)

Result Column experimentSamples.ELISPOT.txt : Number Of Spots Per Well	
Description:	The number of spots generated by the reporting assay reagent.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_elispot_result
Database Column:	num_well
Database Column Type:	float

Result Column experimentSamples.ELISPOT.txt : Cell number per well Value	
Description:	The number of live cells assayed per well.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_elispot_result
Database Column:	base_parent_pop_value
Database Column Type:	float

Result Column experimentSamples.ELISPOT.txt : Cell number per well Unit	
Description:	The unit used to measure the cells added to each well.
Required:	Yes
Lookup:	None
Comment:	The unit used to measure the cells added to each well.
Database Table:	exp_elispot_result
Database Column:	base_parent_pop_unit
Database Column Type:	varchar(100)

Result Column experimentSamples.ELISPOT.txt : Comments	
Description:	Comments captures additional descriptive information that is added to the result.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information that is added to the result.
Database Table:	exp_elispot_result
Database Column:	comments
Database Column Type:	varchar(500)

14. **experimentSamples.Flow_Cytometry.txt**

The flow cytometry experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

14.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.Flow_Cytometry.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.Flow_Cytometry.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

14.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**

Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : .Fcs Result File	
Description:	The primary output for flow cytometry assays is a file in .fcs format. The file size name limit is 240 characters.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	The primary output for flow cytometry assays is a file in .fcs format. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Compensation Or Control File Name(s)	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Flow cytometry assay runs include compensation and/or control files. The set of compensation/control files from an assay run should be linked to the experiment sample that is linked to the assayed sample's fcs file. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Marker Information File	
Description:	The marker information file format is described in the ImmPort flow cytometry analysis module. The file size name limit is 240 characters.
Required:	No

Lookup:	None
Comment:	The marker information file provides the opportunity to describe in greater detail the markers (antibodies, antibody targets or analytes, and conjugated fluorochromes) used in a flow cytometry assay. The file size name limit is 240 characters.

14.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None

Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample

Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit

Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Flow_Cytometry.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

14.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.Flow_Cytometry.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.Flow_Cytometry.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.Flow_Cytometry.txt : Description

Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.Flow_Cytometry.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.Flow_Cytometry.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**

Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

15. **experimentSamples.Gene_Expression.txt**

The gene expression experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

15.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.Gene_Expression.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.Gene_Expression.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

15.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.Gene_Expression.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.Gene_Expression.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Gene_Expression.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**

Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Gene_Expression.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.Gene_Expression.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.Gene_Expression.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.Gene_Expression.txt : Repository Name	
Description:	ImmPort expects array gene expression results to be deposited in NCBI GEO since this is a prerequisite for publication. Please choose this repository name from the list.
Conditional Required:	Yes for **New Experiment Sample**
Controlled Lookup:	Please refer to Appendix A - lk_public_repository
Comment:	Array gene expression results are expected to be deposited in NCBI GEO Please choose this repository name from the list.
Database Table:	experimental_sample
Database Column:	repository_name
Database Column Type:	varchar(50)

Experiment Sample Meta Data Column experimentSamples.Gene_Expression.txt : Repository Accession	
Description:	The public repository accession should be the most granular or highest resolution provided (e.g. sample level accession, not sample group accession).
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Enter the accession that links to the assay result file(s).

Database Table:	experimental_sample
Database Column:	repository_accession
Database Column Type:	varchar(20)

15.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None

Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No

Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.

Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit

Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Gene_Expression.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

15.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.Gene_Expression.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.Gene_Expression.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.Gene_Expression.txt : Description

Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.Gene_Expression.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.Gene_Expression.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**

Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

16. **experimentSamples.Genotyping.txt**

The genotyping experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

16.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.Genotyping.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.Genotyping.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

16.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.Genotyping.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.Genotyping.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Genotyping.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None

Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Genotyping.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.Genotyping.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.Genotyping.txt : Additional Result File Names

Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.Genotyping.txt : Repository Name	
Description:	ImmPort expects genotyping results to be deposited in dbGAP since this is a prerequisite for publication. In order to avoid duplication of data submission by requiring the same data be sent to ImmPort as well as dbGAP, ImmPort requires only the dbGAP accession.
Conditional Required:	Yes for **New Experiment Sample**
Controlled Lookup:	Please refer to Appendix A - lk_public_repository
Comment:	Genotyping results are expected to be deposited in dbGAP. Please choose this repository name from the list.
Database Table:	experimental_sample
Database Column:	repository_name
Database Column Type:	varchar(50)

Experiment Sample Meta Data Column experimentSamples.Genotyping.txt : Repository Accession	
Description:	The public repository accession should be the most granular or highest resolution provided (e.g. sample level accession, not sample group accession).
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Enter the accession that links to the assay result file(s).
Database Table:	experimental_sample

Database Column:	repository_accession
Database Column Type:	varchar(20)

16.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None

Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample

Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Genotyping.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

16.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.Genotyping.txt : Experiment ID

Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.Genotyping.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.Genotyping.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None

Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.Genotyping.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.Genotyping.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment

Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

17. **experimentSamples.HAI.txt**

The HAI experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. More than one analyte's results per assayed sample may be reported by copying the group of columns 'Virus Strain'and 'Titration Dilution Value' needed to describe each assay result. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment is new, then you must complete the required columns to describe them. When defining a new experiment or biological sample, it is only necessary to complete the required descriptive columns once per experiment or biological sample. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

17.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.HAI.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.HAI.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

17.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.HAI.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.HAI.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.HAI.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.HAI.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.HAI.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.HAI.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

17.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.HAI.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.HAI.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**

Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.HAI.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.HAI.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.

Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.HAI.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.HAI.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.HAI.txt : Planned Visit ID

Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.HAI.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.HAI.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit

Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.HAI.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.HAI.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

17.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.HAI.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.HAI.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.HAI.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.

Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.HAI.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.HAI.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.

Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

17.5. SeparatorColumn

This column must always appear in the template and must immediately follow after the last meta data column and before the (repeating) result column groups.

Separator Column experimentSamples.HAI.txt : Result Separator Column	
Description:	This pseudo column separates meta data from results.
Required:	No
Lookup:	None
Comment:	This pseudo column separates the results (lab tests) from the lab test panel meta data. It must always appear and be the column that appears immediately after the last meta-data column and before any result columns.

17.6. ResultColumns

Each result group (that is, result) consists of a group of the following result columns, where the **first column** of the group must always be '**Virus Strain**'.

Result Column experimentSamples.HAI.txt : Virus Strain	
Description:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_virus_strain with preferred column(s) virus_strain_preferred
Comment:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared. This COLUMN must appear as the FIRST COLUMN for a repeating result column group.
Database Table:	exp_hai_result

Database Column:	virus_strain
Database Column Type:	varchar(200)

Result Column experimentSamples.HAI.txt : Titration Dilution Value	
Description:	The maximum sample dilution factor that continues to demonstrate inhibition of hemagglutination.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_hai_result
Database Column:	titration_dilution_value
Database Column Type:	float

Result Column experimentSamples.HAI.txt : Comments	
Description:	Comments captures additional descriptive information that is added to the result.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information that is added to the result.
Database Table:	exp_hai_result
Database Column:	comments
Database Column Type:	varchar(500)

18. **experimentSamples.HLA.txt**

The HLA experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

18.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.HLA.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.HLA.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

18.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.HLA.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.HLA.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.HLA.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None

Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.HLA.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.HLA.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.HLA.txt : Additional Result File Names

Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.HLA.txt : ImmPort Template?	
Description:	If the result file is an ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the"Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.
Conditional Required:	Yes for **New Experiment Sample**
Controlled Lookup:	Please refer to Appendix A - lk_yes_no
Comment:	If the result file is an ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the"Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.

Experiment Sample Meta Data Column experimentSamples.HLA.txt : Result File Name	
Description:	Completing this column is conditional upon whether the "Immport Template?" column value is set to "Yes" or "No". If the "Immport Template?" column value is set to "Yes", do not enter a file name in the "Result File Name" column. If the "Immport Template?" column value is set to "No", enter a file name in the "Result File Name" column. ImmPort supports results templates for many of the commonly used immunological assay methods. These templates facilitate the sharing and re-use of results data in a standard format. The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please use the ImmPort template for this assay result (as opposed to custom file formats) to standardize the format of the data when it is shared. If you use the ImmPort template (strongly recommended by NIAID DAIT), do not enter the template name in this column and set the "Immport Template?" column value to "Yes". If you do not use the Immport template, enter the file name (including file extension) that contains assay results for the experiment sample and set the "Immport Template?" column value to "No". The file size name limit is 240 characters.

18.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.HLA.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.HLA.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.HLA.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.

Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.HLA.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.HLA.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype

Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.HLA.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.HLA.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.HLA.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.HLA.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.HLA.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**

Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.HLA.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

18.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.HLA.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.

Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.HLA.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.HLA.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description

Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.HLA.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.HLA.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

19. **experimentSamples.Image_Histology.txt**

The image histology experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

19.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.Image_Histology.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.Image_Histology.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

19.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.Image_Histology.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.Image_Histology.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Image_Histology.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**

Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Image_Histology.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.Image_Histology.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.Image_Histology.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.Image_Histology.txt : Result File Name	
Description:	Enter the file name for this assay result. The file size name limit is 240 characters.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Enter the file name for this assay result. The file size name limit is 240 characters.

19.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample

Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.

Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample

Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Image_Histology.txt : Study Time T0 Event Specify

Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

19.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.Image_Histology.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.Image_Histology.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**

Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.Image_Histology.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.Image_Histology.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment

Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.Image_Histology.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

20. **experimentSamples.KIR.txt**

The KIR experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

20.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.KIR.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.KIR.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

20.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.KIR.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.KIR.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.KIR.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None

Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.KIR.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.KIR.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.KIR.txt : Additional Result File Names

Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.KIR.txt : Immport Template?	
Description:	If the result file is an ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the"Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.
Conditional Required:	Yes for **New Experiment Sample**
Controlled Lookup:	Please refer to Appendix A - lk_yes_no
Comment:	If the result file is an ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the"Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.

Experiment Sample Meta Data Column experimentSamples.KIR.txt : Result File Name	
Description:	Completing this column is conditional upon whether the "Immport Template?" column value is set to "Yes" or "No". If the "Immport Template?" column value is set to "Yes", do not enter a file name in the "Result File Name" column. If the "Immport Template?" column value is set to "No", enter a file name in the "Result File Name" column. ImmPort supports results templates for many of the commonly used immunological assay methods. These templates facilitate the sharing and re-use of results data in a standard format. The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please use the ImmPort template for this assay result (as opposed to custom file formats) to standardize the format of the data when it is shared. If you use the ImmPort template (strongly recommended by NIAID DAIT), do not enter the template name in this column and set the "Immport Template?" column value to "Yes". If you do not use the Immport template, enter the file name (including file extension) that contains assay results for the experiment sample and set the "Immport Template?" column value to "No". The file size name limit is 240 characters.

20.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.KIR.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.KIR.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.KIR.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.

Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.KIR.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.KIR.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype

Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.KIR.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.KIR.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.KIR.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.KIR.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.KIR.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**

Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.KIR.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

20.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.KIR.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.

Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.KIR.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.KIR.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description

Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.KIR.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.KIR.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

21. **experimentSamples.Mass_Spectrometry.txt**

The mass spectrometry experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

21.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.Mass_Spectrometry.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.Mass_Spectrometry.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

21.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**

Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Result File Name	
Description:	Enter the file name for this assay result. The file size name limit is 240 characters.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Enter the file name for this assay result. The file size name limit is 240 characters.

21.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample

Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.

Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample

Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Mass_Spectrometry.txt : Study Time T0 Event Specify

Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

21.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.Mass_Spectrometry.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.Mass_Spectrometry.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**

Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.Mass_Spectrometry.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.Mass_Spectrometry.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.

Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.Mass_Spectrometry.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

22. **experimentSamples.MBAA.txt**

The MBAA experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

22.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.MBAA.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.MBAA.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

22.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None

Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Additional Result File Names

Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Immport Template?	
Description:	If the result file is an ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the"Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.
Conditional Required:	Yes for **New Experiment Sample**
Controlled Lookup:	Please refer to Appendix A - lk_yes_no
Comment:	If the result file is an ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the"Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Result File Name	
Description:	Completing this column is conditional upon whether the "Immport Template?" column value is set to "Yes" or "No". If the "Immport Template?" column value is set to "Yes", do not enter a file name in the "Result File Name" column. If the "Immport Template?" column value is set to "No", enter a file name in the "Result File Name" column. ImmPort supports results templates for many of the commonly used immunological assay methods. These templates facilitate the sharing and re-use of results data in a standard format. The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please use the ImmPort template for this assay result (as opposed to custom file formats) to standardize the format of the data when it is shared. If you use the ImmPort template (strongly recommended by NIAID DAIT), do not enter the template name in this column and set the "Immport Template?" column value to "Yes". If you do not use the Immport template, enter the file name (including file extension) that contains assay results for the experiment sample and set the "Immport Template?" column value to "No". The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Assay ID	
Description:	The assay ID represents the plate or array ID where standard curves, control samples, and experiment samples were collected and assayed. This ID will be used to link standard curves, control samples, and experiment samples results.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	The assay ID represents the plate or array ID where standard curves, control samples, and experiment samples were collected and assayed. This ID will be used to link standard curves, control samples, and experiment samples results.
Database Table:	experimental_sample
Database Column:	assay_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Dilution Factor	
Description:	The dilution factor indicates how much a sample was diluted before it was assayed.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	experimental_sample
Database Column:	dilution_factor
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Assay Group ID	
Description:	The assay group ID represents a collection of plates or arrays. This ID may be used to link collections of standard curves, control samples, and experiment samples results.
Required:	No
Lookup:	None
Comment:	The assay group ID represents a collection of plates or arrays. This ID may be used to link collections of standard curves, control samples, and experiment samples results.
Database Table:	experimental_sample
Database Column:	assay_group_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.MBAA.txt : Plate Type	
Description:	Describe the MBAA plate type used in the assay.
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_plate_type
Comment:	Describe the MBAA plate type used in the assay.
Database Table:	experimental_sample
Database Column:	plate_type
Database Column Type:	varchar(100)

22.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Biological Sample ID

Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.

Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.

Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event

Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.MBAA.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

22.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.MBAA.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.MBAA.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.MBAA.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.MBAA.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.

Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.MBAA.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

23. **experimentSamples.Neutralizing_Antibody_Titer.txt**

The neutralizing antibody experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. More than one analyte's results per assayed sample may be reported by copying the group of columns 'Virus Strain'and 'Titration Dilution Value' needed to describe each assay result. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment is new, then you must complete the required columns to describe them. When defining a new experiment or biological sample, it is only necessary to complete the required descriptive columns once per experiment or biological sample. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

23.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

23.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

23.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.

Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None

Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit

Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify

Database Column Type:	varchar(50)

23.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title

Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.Neutralizing_Antibody_Titer.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

23.5. SeparatorColumn

This column must always appear in the template and must immediately follow after the last meta data column and before the (repeating) result column groups.

Separator Column experimentSamples.Neutralizing_Antibody_Titer.txt : Result Separator Column	
Description:	This pseudo column separates meta data from results.
Required:	No
Lookup:	None
Comment:	This pseudo column separates the results (lab tests) from the lab test panel meta data. It must always appear and be the column that appears immediately after the last meta-data column and before any result columns.

23.6. ResultColumns

Each result group (that is, result) consists of a group of the following result columns, where the **first column** of the group must always be '**Virus Strain**'.

Result Column experimentSamples.Neutralizing_Antibody_Titer.txt : Virus Strain	
Description:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.

Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_virus_strain with preferred column(s) virus_strain_preferred
Comment:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared. This COLUMN must appear as the FIRST COLUMN for a repeating result column group.
Database Table:	exp_virus_neut_result
Database Column:	virus_strain
Database Column Type:	varchar(200)

Result Column experimentSamples.Neutralizing_Antibody_Titer.txt : Titration Dilution Value	
Description:	The maximum sample dilution factor that continues to demonstrate virus neutralization.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_virus_neut_result
Database Column:	titration_dilution_value
Database Column Type:	float

Result Column experimentSamples.Neutralizing_Antibody_Titer.txt : Comments	
Description:	Comments captures additional descriptive information that is added to the result.
Required:	No
Lookup:	None

Comment:	Comments captures additional descriptive information that is added to the result.
Database Table:	exp_virus_neut_result
Database Column:	comments
Database Column Type:	varchar(500)

24. **experimentSamples.Other.txt**

This experiment sample template is used when no other experiment sample template is available to define and annotate the assay results for a sample by linking sample, experiment, and results together. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment are new, then you must complete the required columns to describe them. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

24.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.Other.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.Other.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

24.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.Other.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.Other.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Other.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None

Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Other.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.Other.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.Other.txt : Additional Result File Names

Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

Experiment Sample Meta Data Column experimentSamples.Other.txt : Result File Name	
Description:	Enter the file name for this assay result. The file size name limit is 240 characters.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Enter the file name for this assay result. The file size name limit is 240 characters.

24.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.Other.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id

Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.Other.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.Other.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.Other.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name

Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Other.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Other.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.Other.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.Other.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.Other.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.

Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.Other.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Other.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.

Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

24.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.Other.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.Other.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment

Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.Other.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.Other.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.Other.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

25. **experimentSamples.QRT-PCR.txt**

The qRT-PCR experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. More than one analyte's results per assayed sample may be reported by copying at least the group of columns 'Entrez Gene ID' and 'Threshold Cycles(ct)' needed to describe each assay result. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment is new, then you must complete the required columns to describe them. When defining a new experiment or biological sample, it is only necessary to complete the required descriptive columns once per experiment or biological sample. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

25.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.QRT-PCR.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.QRT-PCR.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

25.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.QRT-PCR.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.QRT-PCR.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.QRT-PCR.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.QRT-PCR.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.QRT-PCR.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.QRT-PCR.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

25.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.
Conditional Required:	Yes for **New Biological Sample**

Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.

Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Planned Visit ID

Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample

Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.QRT-PCR.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

25.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.QRT-PCR.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.QRT-PCR.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.QRT-PCR.txt : Description

Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.QRT-PCR.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.QRT-PCR.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech

Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

25.5. SeparatorColumn

This column must always appear in the template and must immediately follow after the last meta data column and before the (repeating) result column groups.

Separator Column experimentSamples.QRT-PCR.txt : Result Separator Column	
Description:	This pseudo column separates meta data from results.
Required:	No
Lookup:	None
Comment:	This pseudo column separates the results (lab tests) from the lab test panel meta data. It must always appear and be the column that appears immediately after the last meta-data column and before any result columns.

25.6. ResultColumns

Each result group (that is, result) consists of a group of the following result columns, where the **first column** of the group must always be '**Gene Symbol**'.

Result Column experimentSamples.QRT-PCR.txt : Gene Symbol	
Description:	The NCBI Gene symbol for the gene being assayed. Please select a gene symbol from the list provided if the gene symbol matches your symbol or enter a symbol if there is not an appropriate one provided. This symbol is visible when the result is shared. If the gene sybmol is a NCBI Gene Symbol that is provided in the list, then the columns 'Gene Name' and 'Gene ID' will also be overwritten by the gene name and Entrez Gene ID provided by NCBI.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_pcr with preferred column(s) gene_symbol_human

Comment:	The NCBI Gene symbol for the gene being assayed. Please select a gene symbol from the list provided if the gene symbol matches your symbol or enter a symbol if there is not an appropriate one provided. This symbol is visible when the result is shared.
Database Table:	exp_pcr_result
Database Column:	gene_symbol
Database Column Type:	varchar(100)

Result Column experimentSamples.QRT-PCR.txt : Expression Value Of Target Nucleic ACID	
Description:	This value could be absolute or relative. For example, an absolute expression value could be 6 ng RNA/mg intestine. In this case, 6 should be entered in the 'Expression value of target RNA' column, while ng RNA/ mg intestine is in the 'Expression unit of target RNA' column. A relative expression value, like signal versus GAPDH, could be 2.07. In this case, 2.07 should be in the 'Expression value of target RNA' column, while relative to GAPDH is in the 'Expression unit of target RNA' column.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_pcr_result
Database Column:	expression_value
Database Column Type:	varchar(50)

Result Column experimentSamples.QRT-PCR.txt : Expression Unit Of Target Nucleic ACID	
Description:	The unit for the Expression Value Of Target Nucleic ACID. Please select a unit from the list provided if the unit matches your unit or enter a unit if there is not an appropriate one provided.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_pcr_expression_unit with preferred column(s) preferred_expression_unit

Comment:	The unit for the Expression Value Of Target Nucleic ACID. Please select a unit from the list provided if the unit matches your unit or enter a unit if there is not an appropriate one provided.
Database Table:	exp_pcr_result
Database Column:	expression_unit
Database Column Type:	varchar(200)

Result Column experimentSamples.QRT-PCR.txt : Gene ID	
Description:	The NCBI Gene ID for the gene being assayed. A number is expected.
Required:	No
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_pcr_result
Database Column:	entrez_gene_id
Database Column Type:	varchar(10)

Result Column experimentSamples.QRT-PCR.txt : Gene Name	
Description:	The NCBI Gene name for the gene being assayed.
Required:	No
Lookup:	None
Comment:	The NCBI Gene name for the gene being assayed.
Database Table:	exp_pcr_result
Database Column:	gene_name

Database Column Type:	varchar(4000)

Result Column experimentSamples.QRT-PCR.txt : Other Accession Number Of A Gene	
Description:	Additional identifier(s) for the gene being assayed.
Required:	No
Lookup:	None
Comment:	Additional identifier(s) for the gene being assayed.
Database Table:	exp_pcr_result
Database Column:	other_gene_accession
Database Column Type:	varchar(250)

Result Column experimentSamples.QRT-PCR.txt : Comments	
Description:	Comments captures additional descriptive information.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information.
Database Table:	exp_pcr_result
Database Column:	comments
Database Column Type:	varchar(500)

26. **experimentSamples.Virus_Neutralization.txt**

The virus neutralization experiment sample template defines and annotates the assay results for a sample by linking sample, experiment, and results together. More than one analyte's results per assayed sample may be reported by copying the group of columns 'Virus Strain'and 'Titration Dilution Value' needed to describe each assay result. The experiment samples template allows you to describe to ImmPort new experiments and biological samples or link experiments and biological samples stored in ImmPort with assay results. There is considerable flexibility in linking ImmPort content with new content in the templates and there are some general guidelines to remember. All of the experiment sample IDs in the template must always be unique in the template and must not already be stored in ImmPort. The biological sample and the experiment in the template may be new or they both may be new. If the biological sample or the experiment is new, then you must complete the required columns to describe them. When defining a new experiment or biological sample, it is only necessary to complete the required descriptive columns once per experiment or biological sample. The column header names in the templates indicate to what is being described and the '.xls' spreadsheet versions use color codes to indicate what is being described.

26.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the experiment sample template (for example, experiments and biological samples reference both protocols and study IDs). The value entered for protocol ID and study ID is linked to experiment and biological sample.

ID Meta Data Column experimentSamples.Virus_Neutralization.txt : Study ID	
Description:	An experiment and biological sample may be linked to a single study.
Conditional Required:	Yes for **New Experiment And Biological Sample**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession. This column is only required when both the experiment and biological sample are new.

ID Meta Data Column experimentSamples.Virus_Neutralization.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Experiment Or Biological Sample**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. This column is required when either the experiment or biological sample are new.

26.2. Experiment Sample Meta DataColumns

The Experiment Sample Meta Data Columns include the columns for the combined entity Experiment Sample.

Experiment Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Experiment Sample ID	
Description:	The experiment sample user defined ID is an identifier chosen by the data provider to refer to this sample. This ID may be referenced by other data records (e.g. assay results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	experimental_sample
Database Column:	exp_sample_user_def_id
Database Column Type:	varchar(100)

Experiment Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Experiment Sample Name	
Description:	The experiment sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None
Comment:	The experiment sample name is an alternate identifier that is visible when the experiment sample is shared.
Database Table:	experimental_sample
Database Column:	exp_sample_name
Database Column Type:	varchar(200)

Experiment Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Experiment Sample Description	
Description:	Describe important characteristics of the sample being assayed.
Required:	No
Lookup:	None
Comment:	Describe important characteristics of the sample being assayed.
Database Table:	experimental_sample
Database Column:	exp_sample_descr
Database Column Type:	varchar(500)

Experiment Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Reagent ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The reagent identifier(s) must be stored in ImmPort or in the reagents.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either an assay reagent user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Treatment ID(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;). The treatment identifier(s) must be stored in ImmPort or in the treatments.txt template.
Conditional Required:	Yes for **New Experiment Sample**
Lookup:	None
Comment:	Please enter either a treatment user defined ID or ImmPort accession.

Experiment Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Additional Result File Names	
Description:	Separate file names by a semi-colon (;). The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Please enter additional result file(s) to link to the experiment sample. The file size name limit is 240 characters.

26.3. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.

Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Biological Sample Name	
Description:	The biological sample name is a display name that is available when the data is shared, but it is not referenced by other data.
Required:	No
Lookup:	None

Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample
Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit

Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column experimentSamples.Virus_Neutralization.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify

Database Column Type:	varchar(50)

26.4. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column experimentSamples.Virus_Neutralization.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template. The experiment serves as the parent entity to bind assay results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column experimentSamples.Virus_Neutralization.txt : Experiment Name	
Description:	The experiment name is a display name that is available when the data is shared, but it is not referenced by other data.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column experimentSamples.Virus_Neutralization.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column experimentSamples.Virus_Neutralization.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column experimentSamples.Virus_Neutralization.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.

Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

26.5. SeparatorColumn

This column must always appear in the template and must immediately follow after the last meta data column and before the (repeating) result column groups.

Separator Column experimentSamples.Virus_Neutralization.txt : Result Separator Column	
Description:	This pseudo column separates meta data from results.
Required:	No
Lookup:	None
Comment:	This pseudo column separates the results (lab tests) from the lab test panel meta data. It must always appear and be the column that appears immediately after the last meta-data column and before any result columns.

26.6. ResultColumns

Each result group (that is, result) consists of a group of the following result columns, where the **first column** of the group must always be '**Virus Strain**'.

Result Column experimentSamples.Virus_Neutralization.txt : Virus Strain	
Description:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_virus_strain with preferred column(s) virus_strain_preferred

Comment:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared. This COLUMN must appear as the FIRST COLUMN for a repeating result column group.
Database Table:	exp_virus_neut_result
Database Column:	virus_strain
Database Column Type:	varchar(200)

Result Column experimentSamples.Virus_Neutralization.txt : Titration Dilution Value	
Description:	The maximum sample dilution factor that continues to demonstrate virus neutralization.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_virus_neut_result
Database Column:	titration_dilution_value
Database Column Type:	float

Result Column experimentSamples.Virus_Neutralization.txt : Comments	
Description:	Comments captures additional descriptive information that is added to the result.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information that is added to the result.
Database Table:	exp_virus_neut_result

Database Column:	comments
Database Column Type:	varchar(500)

27. **FCM_Derived_data.txt**

FCM_Derived_data.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

FCM_Derived_data.txt : Population Name ; Gating Definition	
Description:	The drop down list provides a list of cell population name, gating definition pairs separated by a semi-colon as recommended by the HIPC Standards Working Group and based on Cell Ontology terms. Please select a name, gating definition pair if it matches your cell population name, gating definition or enter a name, gating definition pair separated by a semi-colon (;) if there is not an appropriate one provided. The population name and gating definition each have a limit of 500 characters.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_cell_population with preferred column(s) population_name_preferred and population_defnition_preferred
Comment:	This column combines the population name and gating definition. The population name is the type of cells whose count is reported. The gating definition is the marker gating definition of the cell type whose count is reported. Please select a 'population name ; gating definition' from the drop down list if it matches your cell population name and gating definition separated by a semi-colon(;) or enter a name and gating definition separated by a semi-colon (;) if there is not an appropriate one provided. The population name and gating definition each have a limit of 500 characters.

FCM_Derived_data.txt : Base Parent Population	
Description:	The drop down provides the base parent population. Please select a name if it matches your base parent population name or enter a name if there is not an appropriate one provided.
Required:	No
Preferred Lookup:	Please refer to Appendix A - lk_base_pop_name with preferred column(s) base_parent_pop_preferred
Comment:	The base parent population name. Please select a population name from the drop down list if it matches your base parent population name or enter a name if there is not an appropriate one provided.

Database Table:	facs_analyzed_result
Database Column:	base_parent_population
Database Column Type:	varchar(500)

FCM_Derived_data.txt : Population Statistic (count, percentile, etc)	
Description:	The count of the cell type defined by the marker gating definition.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	facs_analyzed_result
Database Column:	population_cell_number
Database Column Type:	float

FCM_Derived_data.txt : Population Statistic Unit	
Description:	The unit used to describe the cell count. Please select a unit from the drop down list if the definition matches your unit name or enter a unit if there is not an appropriate one provided.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_cell_pop_statistic_unit with preferred column(s) preferred_statistic_unit
Comment:	The unit used to describe the cell count. Please select a unit from the list provided if the definition matches your unit name or enter a unit if there is not an appropriate one provided.
Database Table:	facs_analyzed_result
Database Column:	population_cell_number_unit

Database Column Type:	varchar(50)

FCM_Derived_data.txt : Workspace File	
Description:	An XML formatted export of the analysis program is expected (e.g. an xml format of a FlowJo .jo or .wsp file). The file size name limit is 240 characters.
Required:	Yes
Lookup:	None
Comment:	The name of the file that stores the interpreted flow cytometry results from the analysis program. The file size name limit is 240 characters.

FCM_Derived_data.txt : Comments	
Description:	Comments captures additional descriptive information.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information.
Database Table:	facs_analyzed_result
Database Column:	comments
Database Column Type:	varchar(500)

28. **flowTextFiles.txt**

The flowTextFile template defines the set of .fcs or flow cytometry text files that are uploaded in batch mode to the ImmPort FLOW analysis suite. The template enables the data provider to enhance the marker names in the fsc file.

flowTextFiles.txt : Fcs Binary File Name	
Description:	The fcs file is a partially binary file to compress the file size. If a fcs file provided, it will be converted to a text file for analysis. The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	The primary output for flow cytometry assays is a file in .fcs format. The file size name limit is 240 characters.
Database Table:	flow_flock_data_input
Database Column:	fcs_filename
Database Column Type:	varchar(250)

flowTextFiles.txt : Fcs Text File Name	
Description:	The fcs text file is what is processed by a analysis tools. The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	The primary output for flow cytometry assays is a file in .fcs format. The fcs file can be converted to a text file for analysis. The file size name limit is 240 characters.
Database Table:	flow_flock_data_input
Database Column:	fcs_text_filename
Database Column Type:	varchar(250)

flowTextFiles.txt : Preferred Display Name	
Description:	The preferred file name for display.
Required:	Yes
Lookup:	None
Comment:	The preferred file name for display.
Database Table:	flow_flock_data_input
Database Column:	name
Database Column Type:	varchar(126)

flowTextFiles.txt : Description	
Description:	A description of the flow cytometry result.
Required:	No
Lookup:	None
Comment:	A description of the flow cytometry result.
Database Table:	flow_flock_data_input
Database Column:	description
Database Column Type:	varchar(2000)

flowTextFiles.txt : Marker File	
Description:	The marker information file provides the opportunity to describe in greater detail the markers (antibodies, antibody targets or analytes, and conjugated fluorochromes) used in a flow cytometry assay. The file size name limit is 240 characters.
Required:	No
Lookup:	None

Comment:	The marker information file provides the opportunity to describe in greater detail the markers (antibodies, antibody targets or analytes, and conjugated fluorochromes) used in a flow cytometry assay. The file size name limit is 240 characters.
Database Table:	flow_flock_data_input
Database Column:	fcs_marker_filename
Database Column Type:	varchar(250)

29. **HAI_Results.txt**

HAI_Results.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

HAI_Results.txt : Virus Strain	
Description:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_virus_strain with preferred column(s) virus_strain_preferred
Comment:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_hai_result
Database Column:	virus_strain
Database Column Type:	varchar(200)

HAI_Results.txt : Titration Dilution Value	
Description:	The maximum sample dilution factor that continues to demonstrate inhibition of hemagglutination.
Required:	Yes
Lookup:	None
Comment:	A number is expected.

Database Table:	exp_hai_result
Database Column:	titration_dilution_value
Database Column Type:	float

HAI_Results.txt : Comments	
Description:	Comments captures additional descriptive information.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information.
Database Table:	exp_hai_result
Database Column:	comments
Database Column Type:	varchar(500)

30. **HLA_Typing.txt**

HLA_Typing.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

HLA_Typing.txt : Population Area	
Description:	BISC recommends using population names as defined by at the http://www.allelefrequencies.net site.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_pop_area_type
Comment:	BISC recommends using population names as defined by at the http://www.allelefrequencies.net site.
Database Table:	hla_typing_result
Database Column:	pop_area_name
Database Column Type:	varchar(30)

HLA_Typing.txt : HLA-A Allele 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result

Database Column:	hla-a.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-A Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-a.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-B Allele 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-b.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-B Allele 2

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-b.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-C Allele 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-c.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-C Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result

Database Column:	hla-c.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-DPA1 Allele 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-dpa1.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-DPA1 Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-dpa1.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-DPB1 Allele 1

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-dpb1.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-DPB1 Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-dpb1.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-DQA1 Allele 1	
Description:	This is the description of the field HLA-DQA1 Allele 1. Please refer to the user guide for more description. This description can also be found in the user document
Required:	No
Lookup:	None
Comment:	

Database Table:	hla_typing_result
Database Column:	hla-dqa1.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-DQA1 Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-dqa1.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-DQB1 Allele 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-dqb1.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-DQB1 Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-dqb1.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-DRB1 Allele 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-drb1.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-DRB1 Allele 2	
Description:	
Required:	No
Lookup:	None

Comment:	
Database Table:	hla_typing_result
Database Column:	hla-drb1.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-DRB3 Allele 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-drb3.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-DRB3 Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-drb3.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-DRB4 Allele 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-drb4.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-DRB4 Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-drb4.allele_2
Database Column Type:	

HLA_Typing.txt : HLA-DRB5 Allele 1	
Description:	
Required:	No
Lookup:	None

Comment:	
Database Table:	hla_typing_result
Database Column:	hla-drb5.allele_1
Database Column Type:	

HLA_Typing.txt : HLA-DRB5 Allele 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	hla_typing_result
Database Column:	hla-drb5.allele_2
Database Column Type:	

HLA_Typing.txt : Comments	
Description:	Comments captures additional descriptive information.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information.
Database Table:	hla_typing_result
Database Column:	comments
Database Column Type:	varchar(500)

31. **HLA_Typing_System_Allele_Ambiguity.txt**

The HLA typing system allele ambiguity template describes which HLA alleles are called unambiguously by a typing system and which are called ambiguously.

HLA_Typing_System_Allele_Ambiguity.txt : HLA Typing System User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	hla_typing_system
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

HLA_Typing_System_Allele_Ambiguity.txt : Locus Genotyped	
Description:	Choose a MHC locus name from the preferred terms list.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_locus_name
Comment:	The name of the MHC locus assayed.
Database Table:	hla_allele_status
Database Column:	locus_genotyped
Database Column Type:	varchar(10)

HLA_Typing_System_Allele_Ambiguity.txt : Allele Name	
Description:	A HLA allele name that could be reported by the typing system.
Required:	Yes
Lookup:	None
Comment:	The name of an allele that could be reported in some form by the typing system (i.e., either ambiguously, or unambiguously).
Database Table:	hla_allele_status
Database Column:	allele_name
Database Column Type:	varchar(250)

HLA_Typing_System_Allele_Ambiguity.txt : Ambiguous/Unambiguous Status	
Description:	The ambiguous/unambiguous status may help resolve HLA typing result issues, especially between data sets from multiple sources.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_allele_status
Comment:	Is the allele typed ambiguously or unambiguously by the typing system?
Database Table:	hla_allele_status
Database Column:	ambiguous_unambiguous_status
Database Column Type:	varchar(50)

HLA_Typing_System_Allele_Ambiguity.txt : Allele Set Number	
Description:	The allele set number allows the data provider to group ambiguously called alleles into a set.
Required:	No
Lookup:	None

Comment:	If the status is ambiguous, please enter a number greater than -1. If the status is unambiguous, you may leave this blank or enter a -1. The allele set number identifies a set of alleles detected ambiguously. All of the alleles in a given set should be given the same number.
Database Table:	hla_allele_status
Database Column:	allele_set_num
Database Column Type:	integer

32. **HLA_Typing_System_Features.txt**

The HLA typing system features template describes how an HLA alleles is assayed by a typing platform in terms of sequence, orientation, location in the gene, etc.

HLA_Typing_System_Features.txt : HLA Typing System User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	hla_typing_system
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

HLA_Typing_System_Features.txt : Locus Genotyped	
Description:	Choose a MHC locus name from the preferred terms list.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_locus_name
Comment:	The name of the MHC locus assayed.
Database Table:	hla_typing_sys_feature
Database Column:	locus_genotyped
Database Column Type:	varchar(10)

HLA_Typing_System_Features.txt : Feature Name	
Description:	A HLA typing system feature is a high resolution element of a typing system.
Required:	Yes
Lookup:	None
Comment:	The name given to the probe/primer/epitope.
Database Table:	hla_typing_sys_feature
Database Column:	feature_name
Database Column Type:	varchar(100)

HLA_Typing_System_Features.txt : Feature Sequence	
Description:	The feature sequence provides the most detailed description of the feature assayed by the typing probe.
Required:	Yes
Lookup:	None
Comment:	The nucleotide or protein sequence on the HLA feature.
Database Table:	hla_typing_sys_feature
Database Column:	feature_sequence
Database Column Type:	varchar(4000)

HLA_Typing_System_Features.txt : Strand Complementarity	
Description:	The strand complementarity of the feature assayed by the probe from the start of gene transcription.
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_feature_strand

Comment:	If the feature is a nucleotide sequence, is the sequence complementary to the reference sequence, or can the sequence be found in the reference sequence? If the feature is a peptide sequence, this value should be set to 'reference'.
Database Table:	hla_typing_sys_feature
Database Column:	strand_complementarity
Database Column Type:	varchar(100)

HLA_Typing_System_Features.txt : Start Position	
Description:	The start position of gene transcription.
Required:	Yes
Lookup:	None
Comment:	The 5' end (relative to your reference sequence of choice) of the feature.
Database Table:	hla_typing_sys_feature
Database Column:	start_position
Database Column Type:	integer

HLA_Typing_System_Features.txt : Nucleotide/Peptide	
Description:	The feature is entered as either a nucleotide or a peptide sequence. Probe and primer sequences should be entered as nucleotides, while epitopes should be entered as a peptide sequence.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_feature_sequence_type
Comment:	Indicate if the feature is a nucleotide or a protein.
Database Table:	hla_typing_sys_feature

Database Column:	nucleotide_peptide
Database Column Type:	varchar(100)

HLA_Typing_System_Features.txt : Feature Location	
Description:	The feature location provides nucleotide or protein coordinates.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_feature_location
Comment:	The location of the probe/primer/epitope feature for the locus in question.
Database Table:	hla_typing_sys_feature
Database Column:	feature_location
Database Column Type:	varchar(100)

HLA_Typing_System_Features.txt : Feature Type	
Description:	Feature type characterizes the nature of the assay probe.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_feature_type
Comment:	Please indicate if the feature is a primer, probe, or epitope.
Database Table:	hla_typing_sys_feature
Database Column:	feature_type
Database Column Type:	varchar(100)

33. **interventions.txt**

The Intervention Template records the study interventions, concomitant medications, and anything else that was reported as entering a subject.

interventions.txt : Intervention User-Defined ID	
Description:	The intervention user defined ID is an identifier chosen by the data provider to refer to a adverse event. The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	substance_merge
Database Column:	user_def_substance_merge_id
Database Column Type:	varchar(200)

interventions.txt : Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Required:	Yes
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

interventions.txt : Study ID	
Description:	A biological sample may be linked to a single study.
Required:	Yes
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession.

interventions.txt : Name	
Description:	The intervention name is not referenced by other data records.
Required:	Yes
Lookup:	None
Comment:	The intervention name is an alternate identifier that is visible when the sample is shared.
Database Table:	substance_merge
Database Column:	merge_name_reported
Database Column Type:	varchar(125)

interventions.txt : Compound Name	
Description:	The compound name describes what substance entered the subject.
Required:	Yes
Lookup:	None
Comment:	The compound name describes what substance entered the subject.
Database Table:	substance_merge
Database Column:	compound_name_reported
Database Column Type:	varchar(250)

interventions.txt : Compound Role	
Description:	Compound role indicates the purpose or category of the substance.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_compound_role

Comment:	Compound role indicates the purpose or category of the substance.
Database Table:	substance_merge
Database Column:	compound_role
Database Column Type:	varchar(40)

interventions.txt : Dose Reported	
Description:	The amount of a substance.
Required:	Yes
Lookup:	None
Comment:	The amount of a substance.
Database Table:	substance_merge
Database Column:	dose_reported
Database Column Type:	varchar(150)

interventions.txt : Start Day	
Description:	The study day in which the substance was initially encountered.
Required:	No
Lookup:	None
Comment:	The study day in which the substance was initially encountered.
Database Table:	substance_merge
Database Column:	start_day
Database Column Type:	float

interventions.txt : End Day	
Description:	The study day in which the substance was encounter ended.
Required:	No
Lookup:	None
Comment:	The study day in which the substance was encounter ended.
Database Table:	substance_merge
Database Column:	end_day
Database Column Type:	float

interventions.txt : Status	
Description:	Did the substance encounter complete or was ended.
Required:	No
Lookup:	None
Comment:	Did the substance encounter complete or was ended.
Database Table:	substance_merge
Database Column:	status
Database Column Type:	varchar(40)

interventions.txt : Indication	
Description:	The purpose the substance was encountered.
Required:	No
Lookup:	None

Comment:	The purpose the substance was encountered.
Database Table:	substance_merge
Database Column:	reported_indication
Database Column Type:	varchar(255)

interventions.txt : Formulation	
Description:	The packaging or delivery of the substance.
Required:	No
Lookup:	None
Comment:	The packaging or delivery of the substance.
Database Table:	substance_merge
Database Column:	formulation
Database Column Type:	varchar(125)

interventions.txt : Dose	
Description:	The dose value.
Required:	No
Lookup:	None
Comment:	The dose value.
Database Table:	substance_merge
Database Column:	dose
Database Column Type:	float

interventions.txt : Dose Units	
Description:	The dose unit.
Required:	No
Lookup:	None
Comment:	The dose unit.
Database Table:	substance_merge
Database Column:	dose_units
Database Column Type:	varchar(40)

interventions.txt : Dose Frequency per Interval	
Description:	How often the substance was encountered.
Required:	No
Lookup:	None
Comment:	How often the substance was encountered.
Database Table:	substance_merge
Database Column:	dose_freq_per_interval
Database Column Type:	varchar(40)

interventions.txt : Route of Administration	
Description:	How the substance was administered.
Required:	No
Lookup:	None

Comment:	How the substance was administered.
Database Table:	substance_merge
Database Column:	route_of_admin_reported
Database Column Type:	varchar(40)

interventions.txt : Is Ongoing	
Description:	Is the substance encounter continuing.
Required:	No
Lookup:	None
Comment:	Is the substance encounter continuing.
Database Table:	substance_merge
Database Column:	is_ongoing
Database Column Type:	varchar(40)

interventions.txt : Start Time	
Description:	Time within a study day the substance is initially encountered.
Required:	No
Lookup:	None
Comment:	Time within a study day the substance is initially encountered.
Database Table:	substance_merge
Database Column:	start_time
Database Column Type:	varchar(40)

interventions.txt : End Time	
Description:	Time within a study day the substance encounter ended.
Required:	No
Lookup:	None
Comment:	Time within a study day the substance encounter ended.
Database Table:	substance_merge
Database Column:	end_time
Database Column Type:	varchar(40)

interventions.txt : Start Day From Partial Date	
Description:	Is the start day from a partial date.
Required:	No
Lookup:	None
Comment:	Is the start day from a partial date.
Database Table:	substance_merge
Database Column:	start_day_from_partial_date
Database Column Type:	varchar(40)

interventions.txt : End Day From Partial Date	
Description:	Is the end day from a partial date.
Required:	No
Lookup:	None

Comment:	Is the end day from a partial date.
Database Table:	substance_merge
Database Column:	end_day_from_partial_date
Database Column Type:	varchar(1)

interventions.txt : Duration	
Description:	Length of time for the encounter.
Required:	No
Lookup:	None
Comment:	Length of time for the encounter.
Database Table:	substance_merge
Database Column:	duration
Database Column Type:	float

interventions.txt : Duration Unit	
Description:	Time unit for the duration.
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Time unit for the duration.
Database Table:	substance_merge
Database Column:	duration_unit

Database Column Type:	varchar(50)

34. **KIR_Typing_Results_Column.txt**

KIR_Typing_Results_Column.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

KIR_Typing_Results_Column.txt : Population Area	
Description:	BISC recommends using population names as defined by at the http://www.allelefrequencies.net site.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_pop_area_type
Comment:	BISC recommends using population names as defined by at the http://www.allelefrequencies.net site.
Database Table:	kir_typing_result
Database Column:	pop_area_name
Database Column Type:	varchar(30)

KIR_Typing_Results_Column.txt : 2DL1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	2dl1
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DL2/3	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2dl2/3
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DL2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2dl2
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DL3

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2dl3
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DL4	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2dl4
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DL5	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	2dl5
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DL5A	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2dl5a
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DL5B	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2dl5b
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DS1

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2ds1
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DS2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2ds2
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DS3/5	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	2ds3/5
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DS3	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2ds3
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DS4	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2ds4
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DS5

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2ds5
Database Column Type:	

KIR_Typing_Results_Column.txt : 3DL1/Ds1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	3dl1/ds1
Database Column Type:	

KIR_Typing_Results_Column.txt : 3DL1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	3dl1
Database Column Type:	

KIR_Typing_Results_Column.txt : 3DL2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	3dl2
Database Column Type:	

KIR_Typing_Results_Column.txt : 3DL3	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	3dl3
Database Column Type:	

KIR_Typing_Results_Column.txt : 3DS1

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	3ds1
Database Column Type:	

KIR_Typing_Results_Column.txt : 2DP1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	2dp1
Database Column Type:	

KIR_Typing_Results_Column.txt : 3DP1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	3dp1
Database Column Type:	

KIR_Typing_Results_Column.txt : Subject Haplotype(s)	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	subject_haplotype
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 1	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	locus_comment_1
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 1

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	comment_1
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	locus_comment_2
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 2	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	comment_2
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 3	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	locus_comment_3
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 3	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	comment_3
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 4

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	locus_comment_4
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 4	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	comment_4
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 5	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	locus_comment_5
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 5	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	comment_5
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 6	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	locus_comment_6
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 6

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	comment_6
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 7	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	locus_comment_7
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 7	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	comment_7
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 8	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	locus_comment_8
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 8	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	comment_8
Database Column Type:	

KIR_Typing_Results_Column.txt : Locus For Comment 9

Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	locus_comment_9
Database Column Type:	

KIR_Typing_Results_Column.txt : Comment 9	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	comment_9
Database Column Type:	

KIR_Typing_Results_Column.txt : Other Comments	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result

Database Column:	other_comments
Database Column Type:	

35. KIR_Typing_Results_EBI_Results.txt

KIR_Typing_Results_EBI_Results.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

KIR_Typing_Results_EBI_Results.txt : Population Area	
Description:	BISC recommends using population names as defined by at the http://www.allelefrequencies.net site.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_pop_area_type
Comment:	BISC recommends using population names as defined by at the http://www.allelefrequencies.net site.
Database Table:	kir_typing_result
Database Column:	pop_area_name
Database Column Type:	varchar(30)

KIR_Typing_Results_EBI_Results.txt : Gene	
Description:	NCBI Gene Name
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_kir_gene
Comment:	NCBI Gene Name
Database Table:	kir_typing_result

Database Column:	gene_name
Database Column Type:	varchar(4000)

KIR_Typing_Results_EBI_Results.txt : Allele	
Description:	Allele name
Required:	No
Lookup:	None
Comment:	Allele name
Database Table:	kir_typing_result
Database Column:	allele
Database Column Type:	varchar(500)

KIR_Typing_Results_EBI_Results.txt : Present/Absent	
Description:	
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_kir_present_absent
Comment:	
Database Table:	kir_typing_result
Database Column:	present_absent
Database Column Type:	varchar(10)

KIR_Typing_Results_EBI_Results.txt : Copy Number	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	copy_number
Database Column Type:	integer

KIR_Typing_Results_EBI_Results.txt : Missing Data Explanation	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	missing_data_explanation
Database Column Type:	

KIR_Typing_Results_EBI_Results.txt : Description Of New Allele(s)	
Description:	
Required:	No
Lookup:	None
Comment:	

Database Table:	kir_typing_result
Database Column:	description_of_new_alleles
Database Column Type:	

KIR_Typing_Results_EBI_Results.txt : Comments	
Description:	
Required:	No
Lookup:	None
Comment:	
Database Table:	kir_typing_result
Database Column:	comments
Database Column Type:	varchar(500)

36. **KIR_Typing_System_Allele_Ambiguity.txt**

The KIR typing system allele ambiguity template describes which KIR alleles are called unambiguously by a typing system and which are called ambiguously.

KIR_Typing_System_Allele_Ambiguity.txt : KIR Typing System User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	kir_typing_system
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

KIR_Typing_System_Allele_Ambiguity.txt : Locus Genotyped	
Description:	Choose a KIR locus name from the preferred terms list.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_kir_locus
Comment:	The name of the KIR locus assayed.
Database Table:	kir_allele_status
Database Column:	locus_genotyped
Database Column Type:	varchar(10)

KIR_Typing_System_Allele_Ambiguity.txt : Allele Name	
Description:	A HLA allele name that could be reported by the typing system.
Required:	Yes
Lookup:	None
Comment:	The name of an allele that could be reported in some form by the typing system (i.e., either ambiguously, or unambiguously).
Database Table:	kir_allele_status
Database Column:	allele_name
Database Column Type:	varchar(250)

KIR_Typing_System_Allele_Ambiguity.txt : Ambiguous/Unambiguous Status	
Description:	The ambiguous/unambiguous status may help resolve HLA typing result issues, especially between data sets from multiple sources.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_allele_status
Comment:	Is the allele typed ambiguously or unambiguously by the typing system?
Database Table:	kir_allele_status
Database Column:	ambiguous_unambiguous_status
Database Column Type:	varchar(50)

KIR_Typing_System_Allele_Ambiguity.txt : Allele Set Number	
Description:	The allele set number allows the data provider to group ambiguously called alleles into a set.
Required:	No
Lookup:	None

Comment:	If the status is ambiguous, please enter a number greater than -1. If the status is unambiguous, you may leave this blank or enter a -1. The allele set number identifies a set of alleles detected ambiguously. All of the alleles in a given set should be given the same number.
Database Table:	kir_allele_status
Database Column:	allele_set_num
Database Column Type:	integer

37. **labTest_Results.txt**

The lab test results template is a legacy template that supports reporting the lab test results (but does not support defining the lab test panel which is the parent of a lab test). The function of this template is also captured in the lab tests template. This template will continue to be supported for the foreseeable future to support backward compatibility.

labTest_Results.txt : Lab Test User-Defined ID	
Description:	The lab test user defined ID is an identifier chosen by the data provider to refer the lab test. The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	lab_test
Database Column:	user_def_lab_test_id
Database Column Type:	varchar(100)

labTest_Results.txt : Lab Panel ID	
Description:	The lab test panel identifier must be stored in ImmPort or in the labTestPanels.txt template. The lab test panel serves as the parent entity to bind lab test results of a similar type together.
Required:	Yes
Lookup:	None
Comment:	Please enter either a lab test panel user defined ID or ImmPort accession.

labTest_Results.txt : Biological Sample ID	
Description:	The biosample identifier must be stored in ImmPort or in the biosamples.txt template. A single biosample identifier is expected.
Required:	Yes
Lookup:	None

Comment:	Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.

labTest_Results.txt : Lab Test Name	
Description:	The lab test name describes lab test. Please select a unit from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the panel is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_lab_test_name with preferred column(s) preferred_test_name
Comment:	Please select a unit from the list provided if the name matches your name or enter a name if there is not an appropriate one provided.
Database Table:	lab_test
Database Column:	test_name_reported
Database Column Type:	varchar(125)

labTest_Results.txt : Result Value	
Description:	The lab test result captures the assayed value for a sample and can include letters, numbers and greater than or less than symbols.
Required:	Yes
Lookup:	None
Comment:	The lab test result captures the assayed value.
Database Table:	lab_test
Database Column:	result_value
Database Column Type:	varchar(40)

labTest_Results.txt : Result Unit	
Description:	The lab test result unit describes the unit for the lab test value.
Required:	Yes
Lookup:	None
Comment:	The lab test result unit describes the unit for the lab test value.
Database Table:	lab_test
Database Column:	result_unit
Database Column Type:	varchar(40)

38. **labTestPanels.txt**

The lab test panels template is a legacy template that defines and annotates the collection of lab tests applied to a sample (but not the lab test results). The function of this template is also captured in the lab tests template. This template will continue to be supported for the foreseeable future to support backward compatibility.

labTestPanels.txt : Lab Panel User-Defined ID	
Description:	The lab test panel user defined ID is an identifier chosen by the data provider to refer to lab panel. This ID may be referenced by other data records (e.g. lab test). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	lab_test_panel
Database Column:	user_def_lab_test_panel_id
Database Column Type:	varchar(100)

labTestPanels.txt : Lab Panel Name	
Description:	The lab panel name describes a lab test panel. Please select a preferred value from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the panel is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_lab_test_panel_name with preferred column(s) preferred_panel_name
Comment:	The lab panel name describes a lab test panel. Please select a preferred value from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the panel is shared.
Database Table:	lab_test_panel
Database Column:	lab_test_panel_name

Database Column Type:	varchar(125)

labTestPanels.txt : Study ID	
Description:	A lab test panel may be linked to a single study.
Required:	Yes
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession for the study in which the lab test panel occurs.

labTestPanels.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession. One or more identifiers can be entered per subject. Separate identifiers by semicolon (;).
Required:	Yes
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession.

39. **labTests.txt**

The lab tests template defines and annotates the lab test panels, the lab tests and results. This template combines the functions of the legacy lab test panels and lab test results templates into a single template. The biological sample and the lab test panel can be either new or pre-defined in this template. Any combination is acceptable. The only restriction is that the biological sample is the key to template and must be unique within the template.

39.1. ID Meta DataColumns

The ID Meta Data Columns include the ID columns that are referenced by more than one entity in the lab test template (for example, biological samples and lab test panels reference both protocols and study IDs).

ID Meta Data Column labTests.txt : Study ID	
Description:	A lab test panel may be linked to a single study.
Conditional Required:	Yes for **New Biological Sample And Lab Test Panel**
Lookup:	None
Comment:	Please enter a study user defined ID or ImmPort accession for the study in which the lab test panel occurs. The Study ID is only required when both the lab test panel and biological sample are new.

ID Meta Data Column labTests.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession. One or more identifiers can be entered per subject. Separate identifiers by semicolon (;).
Conditional Required:	Yes for **New Biological Sample Or Lab Test Panel**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession. The Protocol ID(s) is required when either the lab test panel or the biological sample are new.

39.2. Biological Sample Meta DataColumns

The Biological Sample Meta Data Columns include the columns for the combined entity Biological Sample.

Biological Sample Meta Data Column labTests.txt : Biological Sample ID	
Description:	The biological sample user defined ID is an identifier chosen by the data provider to refer to a sample. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.

Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. Please enter either a biological sample user defined ID or ImmPort accession. A single biological sample may be linked to an experiment sample.
Database Table:	biological_sample
Database Column:	user_def_biosample_id
Database Column Type:	varchar(100)

Biological Sample Meta Data Column labTests.txt : Source Subject ID	
Description:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived. A single subject record is permitted.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a subject user defined ID or ImmPort accession for the subject from which the sample was derived.

Biological Sample Meta Data Column labTests.txt : Planned Visit ID	
Description:	The link to a study's planned visit provides temporal context for a sample's derivation from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter either a study's planned visit user defined ID or ImmPort accession.

Biological Sample Meta Data Column labTests.txt : Biological Sample Type	
Description:	The sample types are adopted from Uberon, Cell and CHEBI ontologies.

Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_sample_type
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	sample_type_name
Database Column Type:	varchar(50)

Biological Sample Meta Data Column labTests.txt : Biological Sample Sub-Type	
Description:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Required:	No
Lookup:	None
Comment:	Enter a sample type that is of finer resolution than the standard sample types provided. If the 'Biological Sample Type' is 'Other', then the sample subtype must be entered.
Database Table:	biological_sample
Database Column:	sample_subtype
Database Column Type:	varchar(50)

Biological Sample Meta Data Column labTests.txt : Biological Sample Name	
Description:	The biological sample name is not referenced by other data records.
Required:	No
Lookup:	None

Comment:	The biological sample name is an alternate identifier that is visible when the sample is shared.
Database Table:	biological_sample
Database Column:	sample_name
Database Column Type:	varchar(200)

Biological Sample Meta Data Column labTests.txt : Biological Sample Description	
Description:	The biological sample description is used to describe details of the sample not captured in other columns.
Required:	No
Lookup:	None
Comment:	The biological sample description is used to describe details of the sample not captured in other columns.
Database Table:	biological_sample
Database Column:	bio_sample_description
Database Column Type:	varchar(3500)

Biological Sample Meta Data Column labTests.txt : Study Time Collected	
Description:	Study time collected describes the time value for when a sample was derived from a subject.
Conditional Required:	Yes for **New Biological Sample**
Lookup:	None
Comment:	Please enter a number.
Database Table:	biological_sample

Database Column:	study_time_collected
Database Column Type:	float

Biological Sample Meta Data Column labTests.txt : Study Time Collected Unit	
Description:	The time units are standard terms recommended by the HIPC Standards group.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_collected_unit
Database Column Type:	varchar(25)

Biological Sample Meta Data Column labTests.txt : Study Time T0 Event	
Description:	The time zero event refers to the study milestone upon which time is based.
Conditional Required:	Yes for **New Biological Sample**
Controlled Lookup:	Please refer to Appendix A - lk_t0_event
Comment:	Please choose from the drop down list.
Database Table:	biological_sample
Database Column:	study_time_t0_event
Database Column Type:	varchar(50)

Biological Sample Meta Data Column labTests.txt : Study Time T0 Event Specify	
Description:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Required:	No
Lookup:	None
Comment:	Enter a time zero event if 'Other' is selected in column 'Study Time T0 Event'.
Database Table:	biological_sample
Database Column:	study_time_t0_event_specify
Database Column Type:	varchar(50)

39.3. Lab Test Panel Meta DataColumns

The Lab Test Panel Meta Data Columns include the columns for the combined entity Lab Test Panel.

Lab Test Panel Meta Data Column labTests.txt : Lab Panel ID	
Description:	The lab test panel user defined ID is an identifier chosen by the data provider to refer to lab panel. This ID may be referenced by other data records (e.g. lab test). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	lab_test_panel
Database Column:	user_def_lab_test_panel_id
Database Column Type:	varchar(100)

Lab Test Panel Meta Data Column labTests.txt : Lab Panel Name	
Description:	The lab panel name describe lab test panel. Please select a unit from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the panel is shared.
Conditional Required:	Yes for **New Lab Test Panel**
Preferred Lookup:	Please refer to Appendix A - lk_lab_test_panel_name with preferred column(s) preferred_panel_name
Comment:	The lab panel name describe lab test panel. Please select a unit from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the panel is shared.
Database Table:	lab_test_panel
Database Column:	lab_test_panel_name
Database Column Type:	varchar(125)

39.4. SeparatorColumn

This column must always appear in the template and must immediately follow after the last meta data column and before the (repeating) result column groups.

Separator Column labTests.txt : Result Separator Column	
Description:	This pseudo column separates meta data from results.
Required:	No
Lookup:	None
Comment:	This pseudo column separates the results (lab tests) from the lab test panel meta data. It must always appear and be the column that appears immediately after the last meta-data column and before any result columns.

39.5. ResultColumns

Each result group (that is, result) consists of a group of the following result columns, where the **first column** of the group must always be '**Lab Test User-Defined ID**'.

Result Column labTests.txt : Lab Test User-Defined ID	
Description:	The lab test user defined ID is an identifier chosen by the data provider to refer the lab test. The user defined ID is not shared.

Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. This COLUMN must appear as the FIRST COLUMN for a repeating result column group.
Database Table:	lab_test
Database Column:	user_def_lab_test_id
Database Column Type:	varchar(100)

Result Column labTests.txt : Lab Test Name	
Description:	The lab test name describes lab test. Please select a unit from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the panel is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_lab_test_name with preferred column(s) preferred_test_name
Comment:	Please select a unit from the list provided if the name matches your name or enter a name if there is not an appropriate one provided.
Database Table:	lab_test
Database Column:	test_name_reported
Database Column Type:	varchar(125)

Result Column labTests.txt : Result Value	
Description:	The lab test result captures the assayed value for a sample and can include letters, numbers and greater than or less than symbols.
Required:	Yes
Lookup:	None

Comment:	The lab test result captures the assayed value.
Database Table:	lab_test
Database Column:	result_value
Database Column Type:	varchar(40)

Result Column labTests.txt : Result Unit	
Description:	The lab test result unit describes the unit for the lab test value.
Required:	Yes
Lookup:	None
Comment:	The lab test result unit describes the unit for the lab test value.
Database Table:	lab_test
Database Column:	result_unit
Database Column Type:	varchar(40)

40. **MBAA_Results.txt**

MBAA_Results.txt : Source ID	
Description:	The source ID is defined in the corresponding ImmPort template.
Required:	No
Lookup:	None
Comment:	The source ID for the assay result is either an experiment sample, a control sample, or a standard curve.

MBAA_Results.txt : Source Id Type	
Description:	The source type is either an experiment sample, control sample or standard curve.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_source_type
Comment:	Please choose from the drop down list.
Database Table:	mbaa_result
Database Column:	source_type
Database Column Type:	varchar(30)

MBAA_Results.txt : Assay ID	
Description:	The assay ID represents the plate or array ID where standard curves, control samples, and experiment samples were collected and assayed. This ID will be used to link standard curves, control samples, and experiment samples results.
Required:	Yes
Lookup:	None
Comment:	The assay ID represents the plate or array ID where standard curves, control samples, and experiment samples were collected and assayed. This ID will be used to link standard curves, control samples, and experiment samples results.

Database Table:	mbaa_result
Database Column:	assay_id
Database Column Type:	varchar(100)

MBAA_Results.txt : Assay Group ID	
Description:	The assay group ID represents a collection of plates or arrays. This ID may be used to link collections of standard curves, control samples, and experiment samples results.
Required:	No
Lookup:	None
Comment:	The assay group ID represents a collection of plates or arrays. This ID may be used to link collections of standard curves, control samples, and experiment samples results.
Database Table:	mbaa_result
Database Column:	assay_group_id
Database Column Type:	varchar(100)

MBAA_Results.txt : Analyte Name	
Description:	The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	The analyte is the target (e.g protein, DNA, RNA) that is being assayed by the reagent. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.

Database Table:	mbaa_result
Database Column:	analyte_name
Database Column Type:	varchar(100)

MBAA_Results.txt : Mfi	
Description:	Mean Fluorescence Intensity
Required:	Yes
Lookup:	None
Comment:	Mean Fluorescence Intensity
Database Table:	mbaa_result
Database Column:	mfi
Database Column Type:	varchar(100)

MBAA_Results.txt : Concentration Value	
Description:	The concentration value of the standard curve sample or calculated from the MFI using the standard curve.
Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	mbaa_result
Database Column:	concentration_value
Database Column Type:	varchar(100)

MBAA_Results.txt : Concentration Unit	
Description:	The concentration unit of the standard curve sample or calculated from the MFI using the standard curve
Required:	Yes
Lookup:	None
Comment:	The concentration unit of the standard curve sample or calculated from the MFI using the standard curve.
Database Table:	mbaa_result
Database Column:	concentration_unit
Database Column Type:	varchar(100)

MBAA_Results.txt : Mfi Coordinate	
Description:	The position on the assay plate.
Required:	No
Lookup:	None
Comment:	The position on the assay plate.
Database Table:	mbaa_result
Database Column:	mfi_coordinate
Database Column Type:	varchar(100)

MBAA_Results.txt : Comment	
Description:	Additional descriptive information.
Required:	No
Lookup:	None

Comment:	Additional descriptive information.
Database Table:	mbaa_result
Database Column:	comments
Database Column Type:	varchar(500)

41. **PCR_Results.txt**

PCR_Results.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

PCR_Results.txt : Gene Symbol	
Description:	The NCBI Gene symbol for the gene being assayed. Please select a gene symbol from the list provided if the gene symbol matches your symbol or enter a symbol if there is not an appropriate one provided. This symbol is visible when the result is shared. If the gene symbol is a NCBI Gene Symbol that is provided in the list, then the columns 'Gene Name' and 'Gene ID' will also be overwritten by the gene name and Entrez Gene ID provided by NCBI.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_pcr with preferred column(s) gene_symbol_human
Comment:	The NCBI Gene symbol for the gene being assayed. Please select a gene symbol from the list provided if the gene symbol matches your symbol or enter a symbol if there is not an appropriate one provided. This symbol is visible when the result is shared.
Database Table:	exp_pcr_result
Database Column:	gene_symbol
Database Column Type:	varchar(100)

PCR_Results.txt : Expression Value Of Target Nucleic ACID	
Description:	This value could be absolute or relative. For example, an absolute expression value could be 6 ng RNA/mg intestine. In this case, 6 should be entered in the 'Expression value of target RNA' column, while ng RNA/ mg intestine is in the 'Expression unit of target RNA' column. A relative expression value, like signal versus GAPDH, could be 2.07. In this case, 2.07 should be in the 'Expression value of target RNA' column, while relative to GAPDH is in the 'Expression unit of target RNA' column.

Required:	Yes
Lookup:	None
Comment:	A number is expected.
Database Table:	exp_pcr_result
Database Column:	expression_value
Database Column Type:	varchar(50)

PCR_Results.txt : Expression Unit Of Target Nucleic ACID	
Description:	The unit for the Expression Value Of Target Nucleic ACID. Please select a unit from the list provided if the unit matches your unit or enter a unit if there is not an appropriate one provided.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_pcr_expression_unit with preferred column(s) preferred_expression_unit
Comment:	The unit for the Expression Value Of Target Nucleic ACID. Please select a unit from the list provided if the unit matches your unit or enter a unit if there is not an appropriate one provided.
Database Table:	exp_pcr_result
Database Column:	expression_unit
Database Column Type:	varchar(200)

PCR_Results.txt : Gene ID	
Description:	The NCBI Gene ID for the gene being assayed. A number is expected.
Required:	No
Lookup:	None
Comment:	A number is expected.

Database Table:	exp_pcr_result
Database Column:	entrez_gene_id
Database Column Type:	varchar(10)

PCR_Results.txt : Gene Name	
Description:	The NCBI Gene name for the gene being assayed.
Required:	No
Lookup:	None
Comment:	The NCBI Gene name for the gene being assayed.
Database Table:	exp_pcr_result
Database Column:	gene_name
Database Column Type:	varchar(4000)

PCR_Results.txt : Other Accession Number Of A Gene	
Description:	Additional identifier(s) for the gene being assayed.
Required:	No
Lookup:	None
Comment:	Additional identifier(s) for the gene being assayed.
Database Table:	exp_pcr_result
Database Column:	other_gene_accession
Database Column Type:	varchar(250)

PCR_Results.txt : Comments	
Description:	Comments captures additional descriptive information.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information.
Database Table:	exp_pcr_result
Database Column:	comments
Database Column Type:	varchar(500)

42. **protocols.txt**

The protocol template defines and annotates protocol documents that are to be linked to study, subjects, biological samples or experiments.

protocols.txt : Protocol User-Defined ID	
Description:	The protocol user defined ID is an identifier chosen by the data provider to refer to a protocol document. This ID may be referenced by other data records (e.g. study). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	protocol
Database Column:	user_def_prot_id
Database Column Type:	varchar(100)

protocols.txt : Protocol File Name	
Description:	The protocol file name in this column must be an exact spelling match to a file in the ZIP archive that is uploaded. This includes the file extensions which may be hidden depending upon your computer's settings. The file size name limit is 240 characters.
Required:	Yes
Lookup:	None
Comment:	The protocol file name is the document uploaded and linked to the protocol ID. The file name must be an exact spelling match including the file extension. The file size name limit is 240 characters.
Database Table:	protocol
Database Column:	prot_file_name
Database Column Type:	varchar(250)

protocols.txt : Protocol Name	
Description:	The protocol name is not referenced by other data records.
Required:	Yes
Lookup:	None
Comment:	The protocol name is an alternate identifier that is visible when the protocol is shared.
Database Table:	protocol
Database Column:	prot_name
Database Column Type:	varchar(250)

protocols.txt : Protocol Summary	
Description:	The summary is a brief description of the protocol's content.
Required:	No
Lookup:	None
Comment:	The protocol summary describes the purpose of the protocol.
Database Table:	protocol
Database Column:	prot_summary
Database Column Type:	varchar(2000)

protocols.txt : Protocol Type	
Description:	The protocol type uses a preferred list of terms to characterize the protocol's content.
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_protocol_type

Comment:	The protocol type is chosen from a list of preferred terms.
Database Table:	protocol
Database Column:	prot_type_name
Database Column Type:	varchar(100)

43. **Reagent_Sets.txt**

The reagent set template defines and annotates the groups of reagents that are used together in assays such as flow cytometry panels, or multiplex ELISA assays. This template is optional.

Reagent_Sets.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

Reagent_Sets.txt : Reagent Set Components IDs	
Description:	The individual reagents are defined in assay specific reagent templates (e.g. flow cytometry, ELISA). The data provider may define a set or panel of reagents used in a single assay (e.g a panel of fluorochrome conjugated monoclonal antibodies).
Required:	Yes
Lookup:	None
Comment:	Provide a list of individual reagents that comprise the reagent set. Separate the individual reagent IDs with a semi-colon.

Reagent_Sets.txt : Reagent Description	
Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	Yes
Lookup:	None

Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

Reagent_Sets.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	Yes
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

Reagent_Sets.txt : Reagent Type Name	
Description:	The reagent set type indicates the assay type with which the reagent set is used.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_reagent_type
Comment:	Choose from a list of preferred assay types.
Database Table:	exp_sample_reagent
Database Column:	reagent_type

Database Column Type:	varchar(25)

44. **reagents.Array.txt**

The array reagent template defines and annotates microarrays assay platforms.

reagents.Array.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.Array.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.Array.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.Array.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.Array.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.Array.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.Array.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.Array.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

45. **reagents.ELISA.txt**

The ELISA reagent template defines and annotates the antibody reagents assay platforms for ELISA.

reagents.ELISA.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.ELISA.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.ELISA.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.ELISA.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.ELISA.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.ELISA.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.ELISA.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.ELISA.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

reagents.ELISA.txt : Analyte Name	
Description:	The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	The analyte is the target (e.g protein, DNA, RNA) that is being assayed by the reagent. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported
Database Column Type:	varchar(200)

reagents.ELISA.txt : Analyte Description	
Description:	The analyte description may include synonyms.
Required:	No
Lookup:	None
Comment:	The analyte description provides more details on the analyte.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported_descr
Database Column Type:	varchar(250)

reagents.ELISA.txt : Antibody Registry ID	
Description:	
Required:	No
Lookup:	None
Comment:	The identifier assigned by the Antibody Registry to the antibody reagent. http://antibodyregistry.org/

46. **reagents.ELISPOT.txt**

The ELISPOT reagent template defines and annotates the antibody reagents assay platforms for ELISPOT.

reagents.ELISPOT.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.ELISPOT.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.ELISPOT.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.ELISPOT.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.ELISPOT.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.ELISPOT.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.ELISPOT.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.ELISPOT.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

reagents.ELISPOT.txt : Analyte Name	
Description:	The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	The analyte is the target (e.g protein, DNA, RNA) that is being assayed by the reagent. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported
Database Column Type:	varchar(200)

reagents.ELISPOT.txt : Analyte Description	
Description:	The analyte description may include synonyms.
Required:	No
Lookup:	None
Comment:	The analyte description provides more details on the analyte.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported_descr
Database Column Type:	varchar(250)

reagents.ELISPOT.txt : Antibody Registry ID	
Description:	
Required:	No
Lookup:	None
Comment:	The identifier assigned by the Antibody Registry to the antibody reagent. http://antibodyregistry.org/

47. **reagents.Flow_Cytometry.txt**

The flow cytometry reagent template defines and annotates the antibody reagents used for flow cytometry.

reagents.Flow_Cytometry.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.Flow_Cytometry.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.Flow_Cytometry.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.Flow_Cytometry.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.Flow_Cytometry.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.Flow_Cytometry.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.Flow_Cytometry.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.Flow_Cytometry.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

reagents.Flow_Cytometry.txt : Analyte Name	
Description:	The analyte describes what is being measured in an assay.The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytometry with preferred column(s) gene_symbol_human
Comment:	The analyte is the target (e.g protein, DNA, RNA) that is being assayed by the reagent. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported
Database Column Type:	varchar(200)

reagents.Flow_Cytometry.txt : Analyte Description	
Description:	The analyte description may include synonyms.
Required:	No
Lookup:	None
Comment:	The analyte description provides more details on the analyte.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported_descr
Database Column Type:	varchar(250)

reagents.Flow_Cytometry.txt : Antibody Registry ID	
Description:	This is the description of the field Antibody Registry ID. Please refer to the user guide for more description. This description can also be found in the user document
Required:	No
Lookup:	None
Comment:	The identifier assigned by the Antibody Registry to the antibody reagent. http://antibodyregistry.org/

reagents.Flow_Cytometry.txt : Clone Name	
Description:	Flow cytometry reagents often consist of a monoclonal antibody linked to a fluorescing compound and the antibody binds to the target analyte.
Required:	Yes
Lookup:	None
Comment:	The detector in flow cytometry reagents is often a monoclonal antibody conjugated to a fluorochrome. When there is no antibody in the reagent, enter 'NA'.
Database Table:	exp_sample_reagent

Database Column:	detector_name
Database Column Type:	varchar(200)

reagents.Flow_Cytometry.txt : Reporter Name	
Description:	Flow Cytometry reagents often consist of a monoclonal antibody linked to a fluorescing compound and the fluorochrome provides the signal for the cytometer's detectors.
Required:	Yes
Lookup:	None
Comment:	The reporter in a flow cytometry reagent is the fluorochrome linked to an antibody. When there is no antibody in the reagent, it is the fluorescing agent (e.g. CFSE).
Database Table:	exp_sample_reagent
Database Column:	reporter_name
Database Column Type:	varchar(200)

48. **reagents.HAI.txt**

The HAI reagent template defines and annotates reagents for hemagglutination inhibition assays. These include the cell type used. The viral stain and concentration would be defined in the treatments.txt template.

reagents.HAI.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.HAI.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.HAI.txt : Reagent Description	
Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.HAI.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.HAI.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.HAI.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.HAI.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.HAI.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

49. **reagents.HLA_Typing_System.txt**

The HLA typing system reagents template defines and annotates the assay platforms for HLA typing. These reagents will be linked to HLA experiment sample records.

reagents.HLA_Typing_System.txt : HLA Typing System User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.HLA_Typing_System.txt : Locus Genotyped	
Description:	Choose a MHC locus name from the preferred terms list.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_locus_name
Comment:	The name of the MHC locus assayed.
Database Table:	exp_sample_reagent
Database Column:	locus_genotyped
Database Column Type:	varchar(10)

reagents.HLA_Typing_System.txt : Exons / Intron Interrogated	
Description:	The list of exons and introns includes commonly assayed as well as less commonly assayed regions of the MHC gene.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_exon_intron_interrogated
Comment:	The exon or intron identifier assayed for variations by the typing system. Choose from a preferred list of terms to describe the location of the assayed variation. Separate the individual terms with a semi-colon.
Database Table:	exp_sample_reagent
Database Column:	exons_intron_interrogated
Database Column Type:	varchar(250)

reagents.HLA_Typing_System.txt : Typing System Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	typing_system_manufacturer
Database Column Type:	varchar(100)

reagents.HLA_Typing_System.txt : Typing System Version	
Description:	The version of a typing system.
Required:	Yes
Lookup:	None

Comment:	A descriptor that distinguishes the typing system used to generate these data from other systems made by the same manufacturer.
Database Table:	exp_sample_reagent
Database Column:	typing_system_version
Database Column Type:	varchar(150)

reagents.HLA_Typing_System.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.HLA_Typing_System.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.HLA_Typing_System.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

reagents.HLA_Typing_System.txt : Typing Method	
Description:	The typing method describes the assay technology using a set of preferred terms.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_locus_typing_method
Comment:	The assay technology employed in the typing. Choose from the list of preferred terms.
Database Table:	exp_sample_reagent
Database Column:	typing_method
Database Column Type:	varchar(100)

reagents.HLA_Typing_System.txt : HLA Typing Date	
Description:	The typing date may provide insights as to the nature of the variations that may be found by a typing system.
Required:	Yes
Lookup:	None
Comment:	The date (to the best approximation) that the typing was completed. Suggested format is DD/MM/YYY
Database Table:	exp_sample_reagent
Database Column:	hla_typing_date
Database Column Type:	varchar(100)

reagents.HLA_Typing_System.txt : Last Pertinent Who Report/Update	
Description:	The WHO Nomenclature Committee Report may provide details as to the nature of the variations that may be found by a typing system.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_who_report
Comment:	The most recent WHO Nomenclature Committee Report/Update with alleles included in this version of the typing system.
Database Table:	exp_sample_reagent
Database Column:	last_pertinent_who_report_upda
Database Column Type:	varchar(100)

50. **reagents.KIR_Typing_System.txt**

The KIR typing system reagents template defines and annotates the assay platforms for KIR typing. These reagents will be linked to KIR experiment sample records.

reagents.KIR_Typing_System.txt : KIR Typing System User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.KIR_Typing_System.txt : Locus Genotyped	
Description:	Choose a KIR locus name from the preferred terms list.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_kir_locus
Comment:	The name of the KIR locus assayed.
Database Table:	exp_sample_reagent
Database Column:	locus_genotyped
Database Column Type:	varchar(10)

reagents.KIR_Typing_System.txt : Typing Method	
Description:	The typing method describes the assay technology using a set of preferred terms.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_kir_typing_method
Comment:	The technology used to do the typing. Please select a value from the list of preferred terms.
Database Table:	exp_sample_reagent
Database Column:	typing_method
Database Column Type:	varchar(100)

reagents.KIR_Typing_System.txt : Reagent Type	
Description:	The KIR reagent type refers to the molecular characteristics of the assay probe.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_kir_reagent
Comment:	Choose from a list of KIR reagent types recommended by KIR collaborators.
Database Table:	exp_sample_reagent
Database Column:	kir_reagent_type
Database Column Type:	

reagents.KIR_Typing_System.txt : Exons / Intron Interrogated	
Description:	The list of exons and introns includes commonly assayed as well as less commonly assayed regions of the KIR gene.
Required:	Yes

Controlled Lookup:	Please refer to Appendix A - lk_kir_exon_intron_interrogate
Comment:	The exon or intron identifier assayed for variations by the typing system. Choose from a preferred list of terms to describe the location of the assayed variation. Separate the individual terms with a semi-colon.
Database Table:	exp_sample_reagent
Database Column:	exons_intron_interrogated
Database Column Type:	varchar(250)

reagents.KIR_Typing_System.txt : Primer/Probe Sequence (5' To 3')	
Description:	The sequence should be in the 5' to 3' direction.
Required:	Yes
Lookup:	None
Comment:	Enter the sequence of a primer used in the assay.
Database Table:	exp_sample_reagent
Database Column:	primer_probe_seq
Database Column Type:	varchar(1000)

reagents.KIR_Typing_System.txt : Allele(s) Detected	
Description:	Allele names will be checked against the IPD KIR values.
Required:	Yes
Lookup:	None
Comment:	Allele names will be checked against standard values
Database Table:	exp_sample_reagent

Database Column:	alleles_detected
Database Column Type:	varchar(500)

reagents.KIR_Typing_System.txt : Last Pertinent IPD KIR Database Nomenclature Release	
Description:	IPD serves as a central repository for MHC and KIR alleles.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_kir_last_pertinent_release
Comment:	Choose from a list of Immuno Polymorphism Database (IPD) KIR releases.
Database Table:	exp_sample_reagent
Database Column:	last_pertinent_kir_release
Database Column Type:	varchar(100)

reagents.KIR_Typing_System.txt : KIR Typing Date	
Description:	The typing date may provide insights as to the nature of the variations that may be found by a typing system.
Required:	Yes
Lookup:	None
Comment:	The date (to the best approximation) that the typing was completed. Suggested format is DD/MM/YYY
Database Table:	exp_sample_reagent
Database Column:	kir_typing_date
Database Column Type:	varchar(100)

reagents.KIR_Typing_System.txt : Typing System Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	typing_system_manufacturer
Database Column Type:	varchar(100)

reagents.KIR_Typing_System.txt : Typing System Version	
Description:	The version of a typing system.
Required:	Yes
Lookup:	None
Comment:	A descriptor that distinguishes the typing system used to generate these data from other systems made by the same manufacturer.
Database Table:	exp_sample_reagent
Database Column:	typing_system_version
Database Column Type:	varchar(150)

reagents.KIR_Typing_System.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None

Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.KIR_Typing_System.txt : Comments	
Description:	This column is available for additional descriptions of the KIR typing system.
Required:	No
Lookup:	None
Comment:	Provide additional comments to describe the KIR typing system.
Database Table:	exp_sample_reagent
Database Column:	comments
Database Column Type:	varchar(500)

51. **reagents.Mass_Cytometry.txt**

The mass cytometry reagent template defines and annotates the mass tagged antibody reagents used for CYTOF.

reagents.Mass_Cytometry.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.Mass_Cytometry.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.Mass_Cytometry.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.Mass_Cytometry.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.Mass_Cytometry.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.Mass_Cytometry.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.Mass_Cytometry.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.Mass_Cytometry.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

reagents.Mass_Cytometry.txt : Analyte Name	
Description:	The analyte describes what is being measured in an assay.The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytometry with preferred column(s) gene_symbol_human
Comment:	The analyte is the target (e.g protein, DNA, RNA) that is being assayed by the reagent. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported
Database Column Type:	varchar(200)

reagents.Mass_Cytometry.txt : Analyte Description	
Description:	The analyte description may include synonyms.
Required:	No
Lookup:	None
Comment:	The analyte description provides more details on the analyte.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported_descr
Database Column Type:	varchar(250)

reagents.Mass_Cytometry.txt : Antibody Registry ID	
Description:	This is the description of the field Antibody Registry ID. Please refer to the user guide for more description. This description can also be found in the user document
Required:	No
Lookup:	None
Comment:	The identifier assigned by the Antibody Registry to the antibody reagent. http://antibodyregistry.org/

reagents.Mass_Cytometry.txt : Clone Name	
Description:	Mass cytometry reagents often consist of a monoclonal antibody linked to a isotope and the antibody binds to the target analyte.
Required:	Yes
Lookup:	None
Comment:	The detector in mass cytometry reagents is often a monoclonal antibody conjugated to an isotope. When there is no antibody in the reagent, enter 'NA'.
Database Table:	exp_sample_reagent

Database Column:	detector_name
Database Column Type:	varchar(200)

reagents.Mass_Cytometry.txt : Reporter Name	
Description:	Mass cytometry reagents often consist of a monoclonal antibody linked to an isotope and the isotope provides the signal for the mass spectrometer's detectors.
Required:	Yes
Lookup:	None
Comment:	The reporter in a mass cytometry reagent is the isotope linked to an antibody.
Database Table:	exp_sample_reagent
Database Column:	reporter_name
Database Column Type:	varchar(200)

52. **reagents.MBAA.txt**

The MBAA reagent template defines and annotates the assay platforms for MBAA. This should include a row for each of the analytes assayed by the MBAA array.

reagents.MBAA.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.MBAA.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.MBAA.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.MBAA.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.MBAA.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.MBAA.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.MBAA.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.MBAA.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

reagents.MBAA.txt : Analyte Name	
Description:	The analyte describes what is being measured in an assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	The analyte is the target (e.g protein, DNA, RNA) that is being assayed by the reagent. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported
Database Column Type:	varchar(200)

reagents.MBAA.txt : Analyte Description	
Description:	The analyte description may include synonyms.
Required:	No
Lookup:	None
Comment:	The analyte description provides more details on the analyte.
Database Table:	exp_sample_reagent
Database Column:	analyte_reported_descr
Database Column Type:	varchar(250)

53. **reagents.Other.txt**

This reagent template is used to define and annotate reagents that are not described by other reagent templates.

reagents.Other.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.Other.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.Other.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.Other.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.Other.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.Other.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.Other.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.Other.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

54. **reagents.PCR.txt**

The PCR reagent template defines and annotates the reagents used for PCR assays.

reagents.PCR.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.PCR.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.PCR.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.PCR.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.PCR.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.PCR.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.PCR.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.PCR.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

55. **reagents.Sequencing.txt**

The sequencing reagent template defines and annotates the assay platforms used for sequencing.

reagents.Sequencing.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.Sequencing.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.Sequencing.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.Sequencing.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.Sequencing.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.Sequencing.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.Sequencing.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.Sequencing.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

56. **reagents.Virus_Neutralization.txt**

The virus neutralization reagent template defines and annotates reagents used for virus neutralization including the cell types, and antibodies if an ELISA approach is employed.

reagents.Virus_Neutralization.txt : Reagent User-Defined ID	
Description:	The reagent user defined ID is an identifier chosen by the data provider to refer to an assay reagent. The nature of the assay reagent is assay specific and may be an array, an antibody or a typing kit. This ID may be referenced by other data records (e.g. experiment sample). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	exp_sample_reagent
Database Column:	user_def_reagent_id
Database Column Type:	varchar(100)

reagents.Virus_Neutralization.txt : Reagent Name	
Description:	The reagent name is not referenced by other data records.
Required:	No
Lookup:	None
Comment:	The reagent name is an alternate ID that is shared.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_name
Database Column Type:	varchar(200)

reagents.Virus_Neutralization.txt : Reagent Description

Description:	The assay reagent description provides further details on the nature and purpose of the reagent.
Required:	No
Lookup:	None
Comment:	A supplemental description of the assay reagent that expands on its Name and User Defined ID.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_descr
Database Column Type:	varchar(4000)

reagents.Virus_Neutralization.txt : Manufacturer	
Description:	The source of a reagent may be important for evaluating assay results.
Required:	Yes
Lookup:	None
Comment:	The manufacturer is the source of a reagent and may include commercial vendors as well as non-commercial sources (e.g. collaborating labs).
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_manufacturer
Database Column Type:	varchar(100)

reagents.Virus_Neutralization.txt : Catalog Number	
Description:	The reagent's catalog ID provides a reference to the reagent source and description.
Required:	Yes
Lookup:	None

Comment:	If the assay reagent is a commercial product, enter the vendor's catalog identifier. If the reagent is a custom preparation enter 'NA'.
Database Table:	exp_sample_reagent
Database Column:	catalog_number
Database Column Type:	varchar(250)

reagents.Virus_Neutralization.txt : Lot Number	
Description:	The lot number is helpful to understand possible batch specific differences in assay results.
Required:	No
Lookup:	None
Comment:	The lot number is often provided by a reagent source when the reagent is replenished over time.
Database Table:	exp_sample_reagent
Database Column:	lot_number
Database Column Type:	varchar(250)

reagents.Virus_Neutralization.txt : Web Link	
Description:	The web link is often the vendor's web site.
Required:	No
Lookup:	None
Comment:	An internet address that may provide details of an assay reagent.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_weblink

Database Column Type:	varchar(250)

reagents.Virus_Neutralization.txt : Contact	
Description:	If the reagent is from a non-commercial source, the contact information should indicate with whom to communicate to get further details.
Required:	No
Lookup:	None
Comment:	The contact information is particularly helpful when the reagent is not from a commercial vendor.
Database Table:	exp_sample_reagent
Database Column:	exp_sam_rea_contact
Database Column Type:	varchar(1000)

57. **standardCurves.txt**

The standard curve template defines and annotates the standard curves derived from the control sample's concentration and MFI to interpret the experiment sample's MFI in terms of its analyte concentration. This template requires that the standard curve be always new, while the experiment can be new or pre-defined. The standard curve is the key the template and must be unique.

57.1. Standard Curve Meta DataColumns

The Standard Curve Meta Data Columns include the columns for the combined entity Standard Curve.

Standard Curve Meta Data Column standardCurves.txt : Standard Curve ID	
Description:	The Standard Curve user defined ID is an identifier chosen by the data provider to refer to a Standard Curve. This ID may be referenced by other data records (e.g. MBAA results). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	standard_curve
Database Column:	user_defined_id
Database Column Type:	varchar(100)

Standard Curve Meta Data Column standardCurves.txt : Formula	
Description:	The formula used to calculate the standard curve from the input data.
Conditional Required:	Yes for **New Standard Curve**
Lookup:	None
Comment:	The formula used to calculate the standard curve from the input data.
Database Table:	standard_curve
Database Column:	formula
Database Column Type:	varchar(500)

Standard Curve Meta Data Column standardCurves.txt : Analyte Name	
Description:	The molecule or entity being measured. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Conditional Required:	Yes for **New Standard Curve**
Preferred Lookup:	Please refer to Appendix A - lk_analyte_cytokine with preferred column(s) gene_symbol_human
Comment:	The molecule or entity being measured. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	standard_curve
Database Column:	analyte_name
Database Column Type:	varchar(100)

Standard Curve Meta Data Column standardCurves.txt : Assay ID	
Description:	The assay ID represents the plate or array ID where standard curves, control samples, and experiment samples were collected and assayed. This ID will be used to link standard curves, control samples, and experiment samples results.
Conditional Required:	Yes for **New Standard Curve**
Lookup:	None
Comment:	The assay ID represents the plate or array ID where standard curves, control samples, and experiment samples were collected and assayed. This ID will be used to link standard curves, control samples, and experiment samples results.
Database Table:	standard_curve
Database Column:	assay_id
Database Column Type:	varchar(100)

Standard Curve Meta Data Column standardCurves.txt : Assay Group ID	
Description:	The assay group ID represents a collection of plates or arrays. This ID may be used to link collections of standard curves, control samples, and experiment samples results.
Required:	No
Lookup:	None
Comment:	The assay group ID represents a collection of plates or arrays. This ID may be used to link collections of standard curves, control samples, and experiment samples results.
Database Table:	standard_curve
Database Column:	assay_group_id
Database Column Type:	varchar(100)

Standard Curve Meta Data Column standardCurves.txt : Lower Limit	
Description:	A number is expected.
Conditional Required:	Yes for **New Standard Curve**
Lookup:	None
Comment:	Lower limit value established by the standard curve.
Database Table:	standard_curve
Database Column:	lower_limit
Database Column Type:	varchar(100)

Standard Curve Meta Data Column standardCurves.txt : Lower Limit Unit	
Description:	Lower limit unit established by the standard curve.

Conditional Required:	Yes for **New Standard Curve**
Lookup:	None
Comment:	Lower limit unit established by the standard curve.
Database Table:	standard_curve
Database Column:	lower_limit_unit
Database Column Type:	varchar(100)

Standard Curve Meta Data Column standardCurves.txt : Upper Limit	
Description:	A number is expected.
Conditional Required:	Yes for **New Standard Curve**
Lookup:	None
Comment:	Upper limit value established by the standard curve.
Database Table:	standard_curve
Database Column:	upper_limit
Database Column Type:	varchar(100)

Standard Curve Meta Data Column standardCurves.txt : Upper Limit Unit	
Description:	Upper limit value established by the standard curve.
Conditional Required:	Yes for **New Standard Curve**
Lookup:	None
Comment:	Upper limit value established by the standard curve.
Database Table:	standard_curve

Database Column:	upper_limit_unit
Database Column Type:	varchar(100)

Standard Curve Meta Data Column standardCurves.txt : Immport Template?	
Description:	The format of the result file depends on the assay type. ImmPort supports results templates (MBAA_Results.txt) for some of the commonly used immunological assay methods. These template facilitate the sharing and re-use of results data in a standard format. If the result file is the ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the "Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.
Conditional Required:	Yes for **New Standard Curve**
Controlled Lookup:	Please refer to Appendix A - lk_yes_no
Comment:	The format of the result file depends on the assay type. ImmPort supports results templates (MBAA_Results.txt) for some of the commonly used immunological assay methods. These template facilitate the sharing and re-use of results data in a standard format. If the result file is the ImmPort results template (strongly recommended by NIAID DAIT), choose 'Yes' from the drop down list and do not include a file name in the "Result File Name" column. If the result file is not an ImmPort results template, choose 'No' from the drop down list and include a file name in the "Result File Name" column.

Standard Curve Meta Data Column standardCurves.txt : Result File Name	
Description:	Enter the full result file name including file extension. The file size name limit is 240 characters.
Required:	No
Lookup:	None
Comment:	Enter the full result file name including file extension. The file size name limit is 240 characters.

Standard Curve Meta Data Column standardCurves.txt : Additional Result File Names	
Description:	See the ImmPort Data Submission Guide for details on where MBAA bead level files are stored depending on the assay platform used. Separate file names by a semi-colon (;). The file size name limit is 240 characters.

Required:	No
Lookup:	None
Comment:	HIPC recommends including bead level result files if they are available. The file size name limit is 240 characters.

57.2. Experiment Meta DataColumns

The Experiment Meta Data Columns include the columns for the combined entity Experiment.

Experiment Meta Data Column standardCurves.txt : Experiment ID	
Description:	The experiment identifier must be stored in ImmPort or in the experiments.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either a experiment user defined ID or ImmPort accession.
Database Table:	experiment
Database Column:	user_def_exp_id
Database Column Type:	varchar(100)

Experiment Meta Data Column standardCurves.txt : Study ID	
Description:	An experiment may be linked to a single study.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	Please enter either a study user defined ID or ImmPort accession.

Experiment Meta Data Column standardCurves.txt : Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession for a protocol that describes how the sample was derived and prepared. One or more identifiers can be entered per sample. Separate identifiers by semicolon (;).

Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession.

Experiment Meta Data Column standardCurves.txt : Experiment Name	
Description:	The experiment name is not referenced by other data records.
Conditional Required:	Yes for **New Experiment**
Lookup:	None
Comment:	The experiment name is an alternate identifier that is visible when the sample is shared.
Database Table:	experiment
Database Column:	title
Database Column Type:	varchar(250)

Experiment Meta Data Column standardCurves.txt : Description	
Description:	The experiment description is used to describe details of the experiment not captured in other columns.
Required:	No
Lookup:	None
Comment:	The experiment description is used to describe details of the experiment not captured in other columns.
Database Table:	experiment
Database Column:	description
Database Column Type:	varchar(2000)

Experiment Meta Data Column standardCurves.txt : Experiment Purpose	
Description:	The experiment purpose describes the nature of the data that will be collected.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_experiment_type
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_type_name
Database Column Type:	varchar(50)

Experiment Meta Data Column standardCurves.txt : Measurement Technique	
Description:	The measurement technique describes the assay method.
Conditional Required:	Yes for **New Experiment**
Controlled Lookup:	Please refer to Appendix A - lk_exp_measurement_tech
Comment:	Choose from a drop down list.
Database Table:	experiment
Database Column:	exp_mea_tech_name
Database Column Type:	varchar(50)

58. **study_design_edit.txt**

The optional basic study design template defines and annotates elements of a study that are optional when it is initially defined (e.g. weblinks, publications) and for which updates are available after the initial design is uploaded. Use the study_design_edit template to add additional information for a study after a study is defined in ImmPort. If any of the following sections are not used they should be deleted from the template: arm_or_cohort, subject_2_arm_or_cohort, period, planned_visit, study_personnel, inclusion_exclusion, study_2_protocol prior to uploading the template.

58.1. Study_file

The compound template Study_file is optional.

Study_file : Study_ID	
Description:	The study ID can be either the study user defined ID or a study accession.
Required:	Yes
Lookup:	None
Comment:	The study ID can be either the study user defined ID or a study accession.

Study_file : File_Name	
Description:	If there are additional files (e.g. as data dictionaries, CRFs, custom formatted lab tests or assements) that should be linked to the study please indicate them in this block. Insert rows in the template to link additional files to the study. The file size name limit is 250 characters. For a given study, all file names for study_file must be unique.
Required:	Yes
Lookup:	None
Comment:	The name of the file, including file extension, that is to be linked to the study. The file size name limit is 250 characters. For a given study, all file names for study_file must be unique.
Database Table:	study_file
Database Column:	file_name
Database Column Type:	varchar(250)

Study_file : Description

Description:	A brief description of the file.
Required:	Yes
Lookup:	None
Comment:	A brief description of the file.
Database Table:	study_file
Database Column:	description
Database Column Type:	varchar(2000)

Study_file : Study_File_Type	
Description:	Additional study data or study description are current preferred terms.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_study_file_type
Comment:	Please choose from the drop down list.
Database Table:	study_file
Database Column:	study_file_type
Database Column Type:	varchar(50)

58.2. Study_link

The compound template Study_link is optional.

Study_link : Study_ID	
Description:	The study ID can be either the study user defined ID or a study accession.
Required:	Yes
Lookup:	None

Comment:	The study ID can be either the study user defined ID or a study accession.

Study_link : Link_Name	
Description:	The name of the website to which the link refers.
Required:	Yes
Lookup:	None
Comment:	The name of the website to which the link refers.
Database Table:	study_link
Database Column:	link_name
Database Column Type:	varchar(500)

Study_link : Link_Value	
Description:	If this is a clinical trial, please include the clinicalTrial.gov URL.
Required:	Yes
Lookup:	None
Comment:	Define websites that are linked to the study. Insert rows in the template to define additional websites linked to the study.
Database Table:	study_link
Database Column:	link_value
Database Column Type:	varchar(2000)

58.3. Study_pubmed_info

The compound template Study_pubmed_info is optional.

Study_pubmed_info : Study_ID

Description:	The study ID can be either the study user defined ID or a study accession.
Required:	Yes
Lookup:	None
Comment:	The study ID can be either the study user defined ID or a study accession.

Study_pubmed_info : Pubmed_ID	
Description:	The Pubmed or PubMedCentral identifier of an article that includes data from this study.
Required:	Yes
Lookup:	None
Comment:	The Pubmed or PubMedCentral identifier of an article that includes data from this study.
Database Table:	study_pubmed_info
Database Column:	pubmed_id
Database Column Type:	varchar(16)

Study_pubmed_info : Pubmed_Title	
Description:	The title of an article that includes data from this study.
Required:	No
Lookup:	None
Comment:	The title of an article that includes data from this study.
Database Table:	study_pubmed_info
Database Column:	pubmed_title
Database Column Type:	varchar(4000)

Study_pubmed_info : Journal	
Description:	The journal name that publishes an article that includes data from this study.
Required:	No
Lookup:	None
Comment:	The journal name that publishes an article that includes data from this study.
Database Table:	study_pubmed_info
Database Column:	journal
Database Column Type:	varchar(250)

Study_pubmed_info : Year	
Description:	This is the description of the field Year. Please refer to the user guide for more description. This description can also be found in the user document
Required:	No
Lookup:	None
Comment:	
Database Table:	study_pubmed_info
Database Column:	year
Database Column Type:	varchar(4)

Study_pubmed_info : Month	
Description:	This is the description of the field Month. Please refer to the user guide for more description. This description can also be found in the user document
Required:	No
Lookup:	None

Comment:	
Database Table:	study_pubmed_info
Database Column:	month
Database Column Type:	varchar(12)

Study_pubmed_info : Issue	
Description:	This is the description of the field Issue. Please refer to the user guide for more description. This description can also be found in the user document
Required:	No
Lookup:	None
Comment:	
Database Table:	study_pubmed_info
Database Column:	issue
Database Column Type:	varchar(20)

Study_pubmed_info : Pages	
Description:	This is the description of the field Pages. Please refer to the user guide for more description. This description can also be found in the user document
Required:	No
Lookup:	None
Comment:	
Database Table:	study_pubmed_info
Database Column:	pages

Database Column Type:	varchar(20)

Study_pubmed_info : Authors	
Description:	This is the description of the field Authors. Please refer to the user guide for more description. This description can also be found in the user document
Required:	No
Lookup:	None
Comment:	
Database Table:	study_pubmed_info
Database Column:	authors
Database Column Type:	varchar(4000)

58.4. Arm_or_cohort

The compound template Arm_or_cohort is optional.

Arm_or_cohort : Study_ID	
Description:	The study ID can be either the study user defined ID or a study accession.
Required:	Yes
Lookup:	None
Comment:	The study ID can be either the study user defined ID or a study accession.

Arm_or_cohort : User_Def_Arm_Or_Cohort_ID	
Description:	The study's arm(s) or cohort(s) group subjects by criteria relevant to the study (e.g. age, condition) and/or treatments or interventions. Insert rows in the template to define additional arms or cohorts linked to the study.
Required:	Yes
Lookup:	None

Comment:	The arm or cohort user defined ID is an identifier chosen by the data provider to refer to a subject grouping in the study document. This ID may be referenced by other data records (e.g. subjects). The user defined ID is not shared.
Database Table:	arm_or_cohort
Database Column:	user_def_arm_or_cohort_id
Database Column Type:	varchar(100)

Arm_or_cohort : Name	
Description:	The arm or cohort name is not referenced by other data records.
Required:	Yes
Lookup:	None
Comment:	The arm or cohort name is an alternate identifier that is visible when the study is shared.
Database Table:	arm_or_cohort
Database Column:	name
Database Column Type:	varchar(126)

Arm_or_cohort : Description	
Description:	The description should expand any abbreviations used in the arm or cohort name. For example for an observational study with a cohort whose name was "ADEH+", the description would be "Atopic dermatitis with eczema herpeticum".
Required:	Yes
Lookup:	None
Comment:	The description should expand any abbreviations used in the arm or cohort name.
Database Table:	arm_or_cohort

Database Column:	description
Database Column Type:	varchar(2000)

Arm_or_cohort : Population_Selection_Rule	
Description:	For an observational study the rule may either be "Subjects selected by phenotypic characteristics", or the selection rule can provide additional information about population characteristics unique to the cohort. For an interventional study with the populations chosen by randomization the randomization rule should be specified (e.g. "randomized (1:1:1:1) to four treatment groups"). For an interventional study using rules other randomization these rules should be stated (e.g. "Selected by physician").
Required:	Yes
Lookup:	None
Comment:	Describe how subjects were assigned to arms or cohorts.
Database Table:	arm_or_cohort
Database Column:	population_selection_rule
Database Column Type:	varchar(500)

Arm_or_cohort : Type	
Description:	For an interventional study, the type defines the treatment/control attributes of the arms. The attributes are selected from the values listed below (a study may have more than one arm of a given value). Clinical studies often use the following terms. Experimental - Arm for procedure or drug being evaluated. Active Comparator - arm receiving "standard of care" treatment. Placebo Comparator - arm receiving placebo treatment. Sham Comparator - arm receiving a sham procedure such as a surgery or a sham device. No Intervention - arm receiving neither "standard of care" treatment a placebo, or sham procedure or device. For an observational study, the type should be Observational - All arms are observing differences in cohorts
Required:	No
Lookup:	None
Comment:	Example clinical study values: Observational, Experimental, Active Comparator, Placebo Comparator, Sham Comparator

Database Table:	arm_or_cohort
Database Column:	type
Database Column Type:	varchar(20)

Arm_or_cohort : Sort_Order	
Description:	Use this filed to indicate if there is a preferred sort order of arms or cohorts. The contents of the field should be a positive whole number. Larger numbers are displayed later in Arm or Cohort lists.
Required:	Yes
Lookup:	None
Comment:	The sort order column controls the order in which arms or Cohorts are listed in the ImmPort display.
Database Table:	arm_or_cohort
Database Column:	sort_order
Database Column Type:	integer

58.5. Subject_2_arm_or_cohort

The compound template Subject_2_arm_or_cohort is optional.

Subject_2_arm_or_cohort : Subject_ID	
Description:	The subject ID can be either subject user defined ID or a subject accession.
Required:	Yes
Lookup:	None
Comment:	The subject ID can be either subject user defined ID or a subject accession.

Subject_2_arm_or_cohort : Arm_Or_Cohort_ID

Description:	A subject may be assigned to a single arm within a study. To link a subject to more than one study's arm, create a new record for each subject to arm link.
Required:	Yes
Lookup:	None
Comment:	The arm or cohort ID can be either arm or cohort user defined ID or an arm or cohort accession.

Subject_2_arm_or_cohort : Minimum_Age	
Description:	The subject age at the outset of the study may be determined form one of several study milestones as indicated in the Age Event column.
Required:	Yes
Lookup:	None
Comment:	Please enter a number.
Database Table:	arm_or_cohort_2_subj_org_info
Database Column:	min_subject_age
Database Column Type:	float

Subject_2_arm_or_cohort : Maximum_Age	
Description:	The subject age at the end of the study may be determined form one of several study milestones.
Required:	No
Lookup:	None
Comment:	Please enter a number.
Database Table:	arm_or_cohort_2_subj_org_info
Database Column:	max_subject_age
Database Column Type:	float

Subject_2_arm_or_cohort : Age_Unit	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	arm_or_cohort_2_subj_org_info
Database Column:	age_unit
Database Column Type:	varchar(50)

Subject_2_arm_or_cohort : Age_Event	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_age_event
Comment:	Please choose from the drop down list.
Database Table:	arm_or_cohort_2_subj_org_info
Database Column:	age_event
Database Column Type:	varchar(50)

Subject_2_arm_or_cohort : Age_Event_Specify	
Description:	This column supports providing study milestones for subject's age determination that ImmPort does not support.
Required:	No

Lookup:	None
Comment:	If "Age Event" = Other, this field specifies the age event (free text). Otherwise, leave this column blank.
Database Table:	arm_or_cohort_2_subj_org_info
Database Column:	age_event_specify
Database Column Type:	varchar(50)

Subject_2_arm_or_cohort : Subject_Phenotype	
Description:	The subject phenotype captures key aspects of the subject's disposition for the study.
Required:	No
Lookup:	None
Comment:	Enter a description of the subject.
Database Table:	arm_or_cohort_2_subj_org_info
Database Column:	subject_phenotype
Database Column Type:	varchar(200)

58.6. Period

The compound template Period is optional.

Period : Study_ID	
Description:	The study ID can be either the study user defined ID or a study accession.
Required:	No
Lookup:	None
Comment:	The study ID can be either the study user defined ID or a study accession.

Period : User_Def_Period_ID	
Description:	The period user defined ID is an identifier chosen by the data provider to refer to a period within the study. This ID may be referenced by other data records (e.g. planned visit). The user defined ID is not shared. In many non-human research studies, there is a single period that spans the duration of the study. Insert rows in the template to define additional periods linked to the study.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	period
Database Column:	user_def_period_id
Database Column Type:	varchar(100)

Period : Title	
Description:	The period title is not referenced by other data records.
Required:	Yes
Lookup:	None
Comment:	The period title is an alternate identifier that is visible when the protocol is shared.
Database Table:	period
Database Column:	title
Database Column Type:	varchar(250)

Period : Order_Number	
Description:	This is a positive whole number value.

Required:	Yes
Lookup:	None
Comment:	The order of the period within a study.
Database Table:	period
Database Column:	order_number
Database Column Type:	integer

58.7. Planned_visit

The compound template Planned_visit is optional.

Planned_visit : Study_ID	
Description:	The study ID can be either the study user defined ID or a study accession.
Required:	No
Lookup:	None
Comment:	The study ID can be either the study user defined ID or a study accession.

Planned_visit : User_Def_Planned_Visit_ID	
Description:	The planned visit user defined ID is an identifier chosen by the data provider to refer to a protocol document. This ID may be referenced by other data records (e.g. biological samples). The user defined ID is not shared. Insert rows in the template to define additional planned visits linked to the study.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	planned_visit
Database Column:	user_def_planned_visit_id

Database Column Type:	varchar(100)

Planned_visit : Visit_Name	
Description:	the visit name should indicate the purpose of the visit (e.g. screening, assessment, inoculation, sample drawn). The visit name is not referenced by other data records.
Required:	Yes
Lookup:	None
Comment:	The visit name is an alternate identifier that is visible when the protocol is shared.
Database Table:	planned_visit
Database Column:	visit_name
Database Column Type:	varchar(125)

Planned_visit : Visit_Order_Number	
Description:	This is a positive whole number value.
Required:	Yes
Lookup:	None
Comment:	The order of the visit within the study design schedule.
Database Table:	planned_visit
Database Column:	visit_order_number
Database Column Type:	integer

Planned_visit : Min_Start_Day

Description:	This is a positive or negative numeric value.
Required:	Yes
Lookup:	None
Comment:	The minimum start day for a visit as defined in the study schedule.
Database Table:	planned_visit
Database Column:	min_start_day
Database Column Type:	float

Planned_visit : Max_Start_Day	
Description:	This is a positive or negative numeric value. If no value is entered, the maximum start day will be set equal to the minimum start day.
Required:	No
Lookup:	None
Comment:	The maximum start day for a visit as defined in the study schedule.
Database Table:	planned_visit
Database Column:	max_start_day
Database Column Type:	float

Planned_visit : Start_Rule	
Description:	Enter a start rule only if it is more interesting than "subject has arrived for a scheduled visit".
Required:	No
Lookup:	None
Comment:	Enter a start rule only if it is more interesting than "subject has arrived for a scheduled visit".

Database Table:	planned_visit
Database Column:	start_rule
Database Column Type:	varchar(256)

Planned_visit : End_Rule	
Description:	Enter an end rule only if it is more interesting than "subject has arrived for a scheduled visit".
Required:	No
Lookup:	None
Comment:	Enter an end rule only if it is more interesting than "subject has arrived for a scheduled visit".
Database Table:	planned_visit
Database Column:	end_rule
Database Column Type:	varchar(256)

Planned_visit : Period_ID	
Description:	The user defined period ID or period accession.
Required:	Yes
Lookup:	None
Comment:	The period ID can be either a period user defined ID or a period accession.

58.8. Study_personnel

The compound template Study_personnel is optional.

Study_personnel : Study_ID	
Description:	The study ID can be either the study user defined ID or a study accession.

Required:	No
Lookup:	None
Comment:	The study ID can be either the study user defined ID or a study accession.

Study_personnel : User_Def_Study_Personnel_ID	
Description:	The personnel user defined ID is an identifier chosen by the data provider to refer to personnel who may be contacted for more details about the study document. If more than one study personnel record is to be defined, copy the block of rows from User_Def_Study_Personnel_ID to Site_Name for each additional study personnel record.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	study_personnel
Database Column:	user_def_study_personnel_id
Database Column Type:	varchar(100)

Study_personnel : Honorific	
Description:	Usually, the education achievement level of the person.
Required:	No
Lookup:	None
Comment:	Usually, the education achievement level of the person.
Database Table:	study_personnel
Database Column:	honorific
Database Column Type:	varchar(20)

Study_personnel : Last_Name	
Description:	The last name of the study personnel being described.
Required:	Yes
Lookup:	None
Comment:	The last name of the study personnel being described.
Database Table:	study_personnel
Database Column:	last_name
Database Column Type:	varchar(40)

Study_personnel : First_Name	
Description:	The first name of the study personnel being described.
Required:	Yes
Lookup:	None
Comment:	The first name of the study personnel being described.
Database Table:	study_personnel
Database Column:	first_name
Database Column Type:	varchar(40)

Study_personnel : Suffixes	
Description:	Suffixes that are part of the study personnel's name being described.
Required:	No
Lookup:	None

Comment:	Suffixes that are part of the study personnel's name being described.
Database Table:	study_personnel
Database Column:	suffixes
Database Column Type:	varchar(40)

Study_personnel : Organization	
Description:	The organization with whom the study personnel being described is affiliated.
Required:	Yes
Lookup:	None
Comment:	The organization with whom the study personnel being described is affiliated.
Database Table:	study_personnel
Database Column:	organization
Database Column Type:	varchar(125)

Study_personnel : Email	
Description:	Contact information of the study personnel being described.
Required:	Yes
Lookup:	None
Comment:	Contact information of the study personnel being described.
Database Table:	study_personnel
Database Column:	email
Database Column Type:	varchar(40)

Study_personnel : Title_In_Study	
Description:	The role the personnel play in the study as defined by the research team.
Required:	Yes
Lookup:	None
Comment:	The role the personnel play in the study as defined by the research team.
Database Table:	study_personnel
Database Column:	title_in_study
Database Column Type:	varchar(100)

Study_personnel : Role_In_Study	
Description:	The ImmPort display will show the personnel listed as 'PI' in the study.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_personnel_role
Comment:	Please use the drop down list.
Database Table:	study_personnel
Database Column:	role_in_study
Database Column Type:	varchar(5)

Study_personnel : Site_Name	
Description:	Enter the site name if there is a need to further differentiate the affiliation of the study personnel form the Organization.
Required:	Yes
Lookup:	None

Comment:	Enter the site name if there is a need to further differentiate the affiliation of the study personnel form the Organization.
Database Table:	study_personnel
Database Column:	site_name
Database Column Type:	varchar(100)

58.9. Inclusion_exclusion

The compound template Inclusion_exclusion is optional.

Inclusion_exclusion : Study_ID	
Description:	The study ID can be either the study user defined ID or a study accession.
Required:	No
Lookup:	None
Comment:	The study ID can be either the study user defined ID or a study accession.

Inclusion_exclusion : User_Def_Criterion_ID	
Description:	The inclusion or exclusion user defined ID is an identifier chosen by the data provider to refer to a criterion used to determine whether a subject may be enrolled in a study.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	inclusion_exclusion
Database Column:	user_def_criterion_id
Database Column Type:	varchar(100)

Inclusion_exclusion : Criterion	
Description:	One or more criterion must be described to decide whether a subject may be enrolled in a study.
Required:	Yes
Lookup:	None
Comment:	The criterion describes the parameter used to decide if a subject may be enrolled in a study.
Database Table:	inclusion_exclusion
Database Column:	criterion
Database Column Type:	varchar(750)

Inclusion_exclusion : Criterion_Category	
Description:	The criterion category is selected from a preferred list of terms.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_criterion_category
Comment:	There are two values to choose from: inclusion or exclusion.
Database Table:	inclusion_exclusion
Database Column:	criterion_category
Database Column Type:	varchar(40)

58.10. Study_2_protocol

The compound template Study_2_protocol is optional.

Study_2_protocol : Study_ID	
Description:	The study ID can be either the study user defined ID or a study accession.

Required:	Yes
Lookup:	None
Comment:	The study ID can be either the study user defined ID or a study accession.

Study_2_protocol : Protocol_ID	
Description:	The protocol ID for the study.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded. It can be either a protocol user defined ID or an Accession.

59. **subjectsAnimal.txt**

The subject animal template defines and annotates key elements of study subjects including demographics and links subjects to an arm within a study. In mouse studies, data providers may choose to define a single subject to represent a set of inbred mice treated the same way rather than describe each mouse (i.e. a cage of mice treated the same way). This approach is driven by how the assay results are recorded: if assay results are available for individual animals, then each animal should be defined to ImmPort.

subjectsAnimal.txt : Subject User-Defined ID	
Description:	The subject defined ID is an identifier chosen by the data provider to refer to a subject. This ID may be referenced by other data records (e.g. biological sample). The user defined ID is not shared. For human subjects, the ID should not be identifying.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	subject_org_info
Database Column:	user_def_subject_org_id
Database Column Type:	varchar(100)

subjectsAnimal.txt : Subject Treatment Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession. One or more identifiers can be entered per subject. Separate identifiers by semicolon (;).
Required:	Yes
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession.

subjectsAnimal.txt : Study Arm Or Cohort ID	
Description:	A subject may be assigned to a single arm within a study. When subjects are initially uploaded to ImmPort, they may be assigned to a single study's arm.
Required:	Yes

Lookup:	None
Comment:	Please enter either a study arm or cohort user defined ID or ImmPort accession. When subjects are initially uploaded to ImmPort, they may be assigned to a single study's arm.

subjectsAnimal.txt : Gender	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_gender
Comment:	Please choose from the drop down list.
Database Table:	subject_org_info
Database Column:	gender
Database Column Type:	varchar(20)

subjectsAnimal.txt : Minimum Age	
Description:	The subject age at the outset of the study may be determined form one of several study milestones as indicated in the Age Event column.
Required:	Yes
Lookup:	None
Comment:	Please enter a number.
Database Table:	subject_org_info
Database Column:	min_subject_age
Database Column Type:	float

subjectsAnimal.txt : Maximum Age	
Description:	The subject age at the end of the study may be determined form one of several study milestones.
Required:	No
Lookup:	None
Comment:	Please enter a number.
Database Table:	subject_org_info
Database Column:	max_subject_age
Database Column Type:	float

subjectsAnimal.txt : Age Unit	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	subject_org_info
Database Column:	age_unit
Database Column Type:	varchar(50)

subjectsAnimal.txt : Age Event	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_age_event

Comment:	Please choose from the drop down list.
Database Table:	subject_org_info
Database Column:	age_event
Database Column Type:	varchar(50)

subjectsAnimal.txt : Age Event Specify	
Description:	This column supports providing study milestones for subject's age determination that ImmPort does not support.
Required:	No
Lookup:	None
Comment:	If "Age Event" = Other, this field specifies the age event (free text). Otherwise, leave this column blank.
Database Table:	subject_org_info
Database Column:	age_event_specify
Database Column Type:	varchar(50)

subjectsAnimal.txt : Subject Phenotype	
Description:	The subject phenotype captures key aspects of the subject's disposition for the study.
Required:	No
Lookup:	None
Comment:	Enter a description of the subject.
Database Table:	subject_org_info
Database Column:	subject_phenotype

Database Column Type:	varchar(200)

subjectsAnimal.txt : Species Name	
Description:	A list of preferred terms is available. Macaca fascicularis is also commonly called cynomologus monkey, crab eating macaque, long-tailed macaque. Macaca mulatta is also commonly called rhesus macaque
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_species_type
Comment:	Please choose from the drop down list.
Database Table:	subject_org_info
Database Column:	species
Database Column Type:	varchar(50)

subjectsAnimal.txt : Strain Name	
Description:	Please provide strain and breed information as available.
Required:	Yes
Lookup:	None
Comment:	Please provide strain and breed information as available.
Database Table:	subject_org_info
Database Column:	strain
Database Column Type:	varchar(50)

subjectsAnimal.txt : Strain Characteristics

Description:	Strain or breed characteristics that are relevant for the study (e.g. susceptibility).
Required:	No
Lookup:	None
Comment:	Strain or breed characteristics that are relevant for the study (e.g. susceptibility).
Database Table:	subject_org_info
Database Column:	strain_characteristics
Database Column Type:	varchar(500)

60. **subjectsHuman.txt**

The subject human template defines and annotates key elements of study subjects including demographics and links subjects to an arm within a study.

subjectsHuman.txt : Subject User-Defined ID	
Description:	The subject defined ID is an identifier chosen by the data provider to refer to a subject. This ID may be referenced by other data records (e.g. biological sample). The user defined ID is not shared. For human subjects, the ID should not be identifying.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	subject_org_info
Database Column:	user_def_subject_org_id
Database Column Type:	varchar(100)

subjectsHuman.txt : Subject Treatment Protocol ID(s)	
Description:	Please enter either a protocol user defined ID or ImmPort accession. One or more identifiers can be entered per subject. Separate identifiers by semicolon (;).
Required:	Yes
Lookup:	None
Comment:	Please enter either a protocol user defined ID or ImmPort accession.

subjectsHuman.txt : Study Arm Or Cohort ID	
Description:	A subject may be assigned to a single arm within a study. When subjects are initially uploaded to ImmPort, they may be assigned to a single study's arm.
Required:	Yes
Lookup:	None

Comment:	Please enter either a study arm or cohort user defined ID or ImmPort accession. When subjects are initially uploaded to ImmPort, they may be assigned to a single study's arm.

subjectsHuman.txt : Gender	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_gender
Comment:	Please choose from the drop down list.
Database Table:	subject_org_info
Database Column:	gender
Database Column Type:	varchar(20)

subjectsHuman.txt : Minimum Age	
Description:	The subject age at the outset of the study may be determined form one of several study milestones as indicated in the Age Event column.
Required:	Yes
Lookup:	None
Comment:	Please enter a number.
Database Table:	subject_org_info
Database Column:	min_subject_age
Database Column Type:	float

subjectsHuman.txt : Maximum Age

Description:	The subject age at the end of the study may be determined form one of several study milestones.
Required:	No
Lookup:	None
Comment:	Please enter a number.
Database Table:	subject_org_info
Database Column:	max_subject_age
Database Column Type:	float

subjectsHuman.txt : Age Unit	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	Please choose from the drop down list.
Database Table:	subject_org_info
Database Column:	age_unit
Database Column Type:	varchar(50)

subjectsHuman.txt : Age Event	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_age_event
Comment:	Please choose from the drop down list.

Database Table:	subject_org_info
Database Column:	age_event
Database Column Type:	varchar(50)

subjectsHuman.txt : Age Event Specify	
Description:	This column supports providing study milestones for subject's age determination that ImmPort does not support.
Required:	No
Lookup:	None
Comment:	If "Age Event" = Other, this field specifies the age event (free text). Otherwise, leave this column blank.
Database Table:	subject_org_info
Database Column:	age_event_specify
Database Column Type:	varchar(50)

subjectsHuman.txt : Subject Phenotype	
Description:	The subject phenotype captures key aspects of the subject's disposition for the study.
Required:	No
Lookup:	None
Comment:	Enter a description of the subject.
Database Table:	subject_org_info
Database Column:	subject_phenotype

Database Column Type:	varchar(200)

subjectsHuman.txt : Ancestry Population(s)	
Description:	One or more identifiers can be entered. Separate identifiers by semicolon (;).Immunogenomics Data analysis Working Group (IDAWG) and HLA-NET recommends using population names as defined at http://www.allelefrequencies.net/datasets.asp#tag_4.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_pop_area_type
Comment:	Immunogenomics Data analysis Working Group (IDAWG) and HLA-NET recommends using population names (ethnic groups or geographic region) listed in http://www.allelefrequencies.net/datasets.asp#tag_4 . Separate the individual population names with a semi-colon.
Database Table:	subject_org_info
Database Column:	pop_name
Database Column Type:	varchar(100)

subjectsHuman.txt : Ethnicity	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_ethnicity
Comment:	Please choose from the drop down list.
Database Table:	subject_org_info
Database Column:	ethnicity
Database Column Type:	varchar(50)

subjectsHuman.txt : Race	
Description:	A list of preferred terms is available.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_race
Comment:	Please choose from the drop down list.
Database Table:	subject_org_info
Database Column:	race
Database Column Type:	varchar(50)

subjectsHuman.txt : Race Specify	
Description:	This column supports providing subject race descriptions that ImmPort does not support.
Required:	No
Lookup:	None
Comment:	If Race='Other', the race should be specified, otherwise leave blank.
Database Table:	subject_org_info
Database Column:	race_specify
Database Column Type:	varchar(1000)

subjectsHuman.txt : Subject Description	
Description:	The subject description may be used to augment the arm or cohort based description of a subject.
Required:	No

Lookup:	None
Comment:	The subject description may be used to augment the arm or cohort based description of a subject.
Database Table:	subject_org_info
Database Column:	subject_org_descr
Database Column Type:	varchar(4000)

61. **treatments.txt**

The treatment template defines and annotates the in vitro modifications (molecule added, temperature, duration) made to a sample. Treatments are required to be referenced by experiment samples and optionally by biologic samples.

treatments.txt : Treatment User-Defined ID	
Description:	The treatment user defined ID is an identifier chosen by the data provider to refer to a treatment agent which can be a molecule, time or temperature. This ID may be referenced by other data records (e.g. study). The user defined ID is not shared.
Required:	Yes
Lookup:	None
Comment:	The identifier should be unique to the ImmPort workspace to which the data will be uploaded.
Database Table:	treatment
Database Column:	user_defined_id
Database Column Type:	varchar(100)

treatments.txt : Treatment Name	
Description:	The treatment name is not referenced directly by other data records. The name should be an informative to a researcher reviewing the data. Treatments may be referenced by more than one biological or experiment sample. There are three categories to describe the molecular content, time and/or temperature applied in a sample treatment. You may enter data for amount, duration or temperature only any combination of these categories (e.g. amount and duration).
Required:	Yes
Lookup:	None
Comment:	Treatments refer to in vitro modifications of samples. The treatment name is an alternate identifier that is visible when the treatment is shared.
Database Table:	treatment
Database Column:	treatment_name

Database Column Type:	varchar(100)

treatments.txt : Treatment?	
Description:	If 'No' is selected, you must enter a value in the Treatment User Defined ID and Name columns and that is all. If 'Yes' is selected, you must enter a value in the Treatment User Defined ID and Name columns and the value/unit pair of columns for amount or duration or temperature.
Required:	Yes
Controlled Lookup:	Please refer to Appendix A - lk_yes_no
Comment:	Was a treatment applied to a sample?

treatments.txt : Amount Value	
Description:	The value should be a number.
Required:	No
Lookup:	None
Comment:	The Amount Value indicates how much (concentration, mass, volume) of a treatment agent was applied to a sample.
Database Table:	treatment
Database Column:	amount_value
Database Column Type:	varchar(50)

treatments.txt : Amount Unit	
Description:	The amount unit preferred terms list has commonly used units. If additional units are needed, please contact the BISC HelpDesk.
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_amount_unit

Comment:	The unit should be selected from the drop down list.
Database Table:	treatment
Database Column:	amount_unit
Database Column Type:	varchar(50)

treatments.txt : Duration Value	
Description:	The Duration Value indicates how long a treatment agent was applied to a sample.
Required:	No
Lookup:	None
Comment:	The value should be a number.
Database Table:	treatment
Database Column:	duration_value
Database Column Type:	varchar(200)

treatments.txt : Duration Unit	
Description:	The duration unit preferred terms list has commonly used units. If additional units are needed, please contact the BISC HelpDesk.
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_time_unit
Comment:	The unit should be selected from the drop down list.
Database Table:	treatment
Database Column:	duration_unit

Database Column Type:	varchar(50)

treatments.txt : Temperature Value	
Description:	The Temperature Value indicates how long a treatment agent was applied to a sample.
Required:	No
Lookup:	None
Comment:	The value should be a number.
Database Table:	treatment
Database Column:	temperature_value
Database Column Type:	varchar(50)

treatments.txt : Temperature Unit	
Description:	The temperature unit preferred terms list has commonly used units. If additional units are needed, please contact the BISC HelpDesk.
Required:	No
Controlled Lookup:	Please refer to Appendix A - lk_temperature_unit
Comment:	The unit should be selected from the drop down list.
Database Table:	treatment
Database Column:	temperature_unit
Database Column Type:	varchar(50)

treatments.txt : Comments

Description:	The Comments column allows the data provider to provide additional descriptive information.
Required:	No
Lookup:	None
Comment:	Please provide additional comments as needed.
Database Table:	treatment
Database Column:	comments
Database Column Type:	varchar(500)

62. **Virus_Neutralization_Results.txt**

Virus_Neutralization_Results.txt : Experiment Sample ID	
Description:	The experiment sample identifier must be stored in ImmPort or in the experimentsamples.txt template.
Required:	Yes
Lookup:	None
Comment:	Please enter either an experiment sample user defined ID or ImmPort accession.

Virus_Neutralization_Results.txt : Virus Strain	
Description:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Required:	Yes
Preferred Lookup:	Please refer to Appendix A - lk_virus_strain with preferred column(s) virus_strain_preferred
Comment:	The name of the virus strain used in the assay. Please select a name from the list provided if the name matches your name or enter a name if there is not an appropriate one provided. This name is visible when the result is shared.
Database Table:	exp_virus_neut_result
Database Column:	virus_strain
Database Column Type:	varchar(200)

Virus_Neutralization_Results.txt : Titration Dilution Value	
Description:	The maximum sample dilution factor that continues to demonstrate virus neutralization.
Required:	Yes
Lookup:	None
Comment:	A number is expected.

Database Table:	exp_virus_neut_result
Database Column:	titration_dilution_value
Database Column Type:	float

Virus_Neutralization_Results.txt : Comments	
Description:	Comments captures additional descriptive information.
Required:	No
Lookup:	None
Comment:	Comments captures additional descriptive information.
Database Table:	exp_virus_neut_result
Database Column:	comments
Database Column Type:	varchar(500)

Appendix A - Valid Values for the Lookup tables

1. **lk_adverse_event_severity**

Name	Description	Link
Grade 1 Mild Adverse Event	A type of adverse event that is usually transient and may require only minimal treatment or therapeutic intervention. The event does not generally interfere with usual activities of daily living.	https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=15.08e&code=C41338
Grade 2 Moderate Adverse Event	A type of adverse event that is usually alleviated with additional specific therapeutic intervention. The event interferes with usual activities of daily living, causing discomfort but poses no significant or permanent risk of harm to the research participant.	https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=15.08e&code=C41339
Grade 3 Severe Adverse Event	A type of adverse event that requires intensive therapeutic intervention. The event interrupts usual activities of daily living, or significantly affects clinical status. The event possesses a significant risk of harm to the research participant and hospitalization may be required.	https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=15.08e&code=C41340
Grade 4 Life Threatening or Disabling Adverse Event	An adverse event, and/or its immediate sequelae, which is associated with an imminent risk of death or which is associated with physical or mental disabilities that affect or limit the ability of a person to perform activities of daily living (eating, ambulation, toileting, etc.)	https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=15.08e&code=C41337

Grade 5 Death Related to Adverse Event	The termination of life as a result of an adverse event.	https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=15.08e&code=C48275
Not_Specified	Adverse Event is not specified or not received. If no Adverse Event value is received, then this is the system default value.	

2. **lk_age_event**

Name	Description	Link
Age at enrollment	Age Event is the Age at enrollment. In the case of a subject enrolled in multiple studies, this value is the minimum age for all the studies.	http://bioportal.bioontology.org/ontologies/OBI?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000011
Age at infection	Age Event is the Age at infection.	http://bioportal.bioontology.org/ontologies/OBI?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000011
Age at initial treatment	Age Event is the Age at initial treatment.	http://bioportal.bioontology.org/ontologies/OBI?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000011

Age at initial vaccine administration	Age Event is the Age at initial vaccine administration.	http://bioportal.bioontology.org/ontologies/OBI?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000011
Age at Study Day 0	Age Event is the Age at Study Day 0.	http://bioportal.bioontology.org/ontologies/OBI?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000011
Not_Specified	Age Event is not specified or not received. If no Age Event value is received, then this is the system default value.	http://bioportal.bioontology.org/ontologies/OBI?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000011
Other	Age Event is some Other value not in CV Terms.	http://bioportal.bioontology.org/ontologies/OBI?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000011

3. **lk_allele_status**

Name	Description
Ambiguous	
Unambiguous	

4. **lk_amount_unit**

Name	Description	Link
gm	gram	http://purl.obolibrary.org/obo/UO_0000021
HAU	hemagglutination units	http://en.wikipedia.org/wiki/Virus_quantification
IU	The unitage assigned by the WHO to International Biological Standards - substances, classed as biological according to the criteria provided by WHO Expert Committee on Biological Standardization (e.g. hormones, enzymes, and vaccines), to enable the results of biological and immunological assay procedures to be expressed in the same way throughout the world. The definition of an international unit is generally arbitrary and technical, and has to be officially approved by the International Conference for Unification of Formulae.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C48579&ns=NCI_Thesaurus
M	molar	http://purl.obolibrary.org/obo/UO_0000062
mg	milligram	http://purl.obolibrary.org/obo/UO_0000022
mg/ml	microgram per milliliter	http://purl.bioontology.org/ontology/SNOMEDCT/258798001
ml	milliliter	http://purl.obolibrary.org/obo/UO_0000098
mM	millimolar	http://purl.obolibrary.org/obo/UO_0000063
MOI	multiplicity of infection	http://en.wikipedia.org/wiki/Multiplicity_of_infection

ng	nanogram	http://purl.obolibrary.org/obo/UO_0000024
ng/ml	nanogram per milliliter	http://purl.bioontology.org/ontology/SNOMEDCT/258806002
ng/nl	nanogram per nanoliter	
ng/ul	nanogram per microliter	http://purl.bioontology.org/ontology/SNOMEDCT/272082007
nl	nanoliter	http://purl.obolibrary.org/obo/UO_0000102
nM	nanomolar	http://purl.obolibrary.org/obo/UO_0000065
Not_Specified	No value provided. Not stated explicitly or in detail.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C38046&ns=NCI_Thesaurus
pg	picogram	http://purl.obolibrary.org/obo/UO_0000025
pg/ml	picogram per milliliter	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C67327&ns=NCI_Thesaurus
pg/nl	picogram per nanoliter	

pg/ul	picogram per microliter	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C67306&ns=NCI_Thesaurus
pl	picoliter	http://purl.obolibrary.org/obo/UO_0000103
pM	picomolar	http://purl.obolibrary.org/obo/UO_0000066
TCID50	mean tissue culture infective dose	http://en.wikipedia.org/wiki/Virus_quantification
ug	microgram	http://purl.obolibrary.org/obo/UO_0000023
ug/ml	microgram per milliliter	http://purl.bioontology.org/ontology/SNOMEDCT/258801007
ug/ul	microgram per microliter	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C42576&ns=NCI_Thesaurus
ul	microliter	http://purl.obolibrary.org/obo/UO_0000101
uM	micromolar	http://purl.bioontology.org/ontology/SNOMEDCT/258814008
units/ml	Enzyme Unit per Milliliter. Unit of catalytic activity concentration defined as activity equal to one enzyme unit per one milliliter of system volume.	http://purl.bioontology.org/ontology/SNOMEDCT/259002007

5. **lk_analyte_cytokine**

Name	Description	Link	ID
gene_symbol_human			
ACKR3	chemokine receptor CXCR7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001211	HGNC:23692
CCL1	C-C motif chemokine 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001985	HGNC:10609
CCL11	eotaxin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002139	HGNC:10610
CCL12	C-C motif chemokine 12	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006165	-
CCL13	C-C motif chemokine 13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002121	HGNC:10611
CCL14	C-C motif chemokine 14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001986	HGNC:10612

CCL15	C-C motif chemokine 15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001987	HGNC:10613
CCL16	C-C motif chemokine 16	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001988	HGNC:10614
CCL17	C-C motif chemokine 17	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001989	HGNC:10615
CCL18	C-C motif chemokine 18	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001990	HGNC:10616
CCL19	C-C motif chemokine 19	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001991	HGNC:10617
CCL2	C-C motif chemokine 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002122	HGNC:10618
CCL20	C-C motif chemokine 20	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001992	HGNC:10619

CCL21	C-C motif chemokine 21	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001993	HGNC:10620
CCL22	C-C motif chemokine 22	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001994	HGNC:10621
CCL23	C-C motif chemokine 23	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001995	HGNC:10622
CCL24	C-C motif chemokine 24	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001996	HGNC:10623
CCL25	C-C motif chemokine 25	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001801	HGNC:10624
CCL26	C-C motif chemokine 26	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001997	HGNC:10625
CCL27	C-C motif chemokine 27	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001802	HGNC:10626

CCL3	C-C motif chemokine 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002123	HGNC:10627
CCL3L1	-	_	HGNC:10628
CCL3L3	C-C motif chemokine 3-like 1, full-length form	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000019256	HGNC:30554
CCL3P1	-	_	HGNC:10629
CCL4	C-C motif chemokine 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002124	HGNC:10630
CCL4L1	-	_	HGNC:10631
CCL4L2	C-C motif chemokine 4-like	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005112	HGNC:24066
CCL5	small inducible cytokine A5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002094	HGNC:10632
CCL6	C-C motif chemokine 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006166	-

CCL7	C-C motif chemokine 7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002125	HGNC:10634
CCL8	C-C motif chemokine 8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002126	HGNC:10635
CCL9	C-C motif chemokine 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006167	-
CCR1	chemokine receptor CCR1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001254	HGNC:1602
CCR10	C-C chemokine receptor type 10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001198	HGNC:4474
CCR2	C-C chemokine receptor type 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001199	HGNC:1603
CCR3	chemokine receptor CCR3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001255	HGNC:1604

CCR4	C-C chemokine receptor type 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001200	HGNC:1605
CCR5	C-C chemokine receptor type 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001201	HGNC:1606
CCR6	C-C chemokine receptor type 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001202	HGNC:1607
CCR7	C-C chemokine receptor type 7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001203	HGNC:1608
CCR8	C-C chemokine receptor type 8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001204	HGNC:1609
CCR9	C-C chemokine receptor type 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001205	HGNC:1610
CD27	CD27 molecule	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001963	HGNC:11922

CD4	CD4 molecule	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001004	HGNC:1678
CD40	tumor necrosis factor receptor superfamily member 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001961	HGNC:11919
CD40LG	tumor necrosis factor ligand superfamily member 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001950	HGNC:11935
CD70	CD70 molecule	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001309	HGNC:11937
CKLF	chemokine-like factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005514	HGNC:13253
CLCF1	cardiotrophin-like cytokine factor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005527	HGNC:17412
CMTM1	CKLF-like MARVEL transmembrane domain-containing protein 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000029358	HGNC:19172

CMTM6	CKLF-like MARVEL transmembrane domain-containing protein 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000029359	HGNC:19177
CMTM7	CKLF-like MARVEL transmembrane domain-containing protein 7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000031311	HGNC:19178
CNTFR	ciliary neurotrophic factor receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005664	HGNC:2170
CSF1	macrophage colony-stimulating factor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005930	HGNC:2432
CSF1R	macrophage colony-stimulating factor 1 receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002062	HGNC:2433
CSF2	granulocyte-macrophage colony-stimulating factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005931	HGNC:2434
CSF2RA	granulocyte-macrophage colony-stimulating factor receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001354	HGNC:2435

CSF2RB	cytokine receptor common beta chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001339	HGNC:2436
CSF3	granulocyte colony-stimulating factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005932	HGNC:2438
CSF3R	granulocyte colony-stimulating factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001353	HGNC:2439
CX3CL1	fractalkine	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001855	HGNC:10647
CX3CR1	CX3C chemokine receptor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001206	HGNC:2558
CXCL1	growth-regulated alpha protein	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006063	HGNC:4602
CXCL10	C-X-C motif chemokine 10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006064	HGNC:10637

CXCL11	C-X-C motif chemokine 11	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006065	HGNC:10638
CXCL12	stromal cell-derived factor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006066	HGNC:10672
CXCL13	C-X-C motif chemokine 13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006067	HGNC:10639
CXCL14	C-X-C motif chemokine 14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006068	HGNC:10640
CXCL15	C-X-C motif chemokine 15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006217	-
CXCL16	C-X-C motif chemokine 16	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001804	HGNC:16642
CXCL17	VEGF co-regulated chemokine 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001805	HGNC:19232

CXCL2	C-X-C motif chemokine 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006069	HGNC:4603
CXCL3	C-X-C motif chemokine 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006070	HGNC:4604
CXCL5	C-X-C motif chemokine 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006071	HGNC:10642
CXCL6	C-X-C motif chemokine 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006072	HGNC:10643
CXCL8	interleukin-8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001395	HGNC:6025
CXCL9	C-X-C motif chemokine 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006073	HGNC:7098
CXCR1	high affinity interleukin-8 receptor A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001256	HGNC:6026

CXCR2	high affinity interleukin-8 receptor B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001257	HGNC:6027
CXCR3	C-X-C chemokine receptor type 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001207	HGNC:4540
CXCR4	C-X-C chemokine receptor type 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001208	HGNC:2561
CXCR5	C-X-C chemokine receptor type 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001209	HGNC:1060
CXCR6	C-X-C chemokine receptor type 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001210	HGNC:16647
EBI3	interleukin-27 subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001386	HGNC:3129
EGF	pro-epidermal growth factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006928	HGNC:3229

EGFR	epidermal growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006933	HGNC:3236
EPO	erythropoietin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007141	HGNC:3415
EPOR	erythropoietin receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007142	HGNC:3416
FAS	tumor necrosis factor receptor superfamily member 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001962	HGNC:11920
FGF1	heparin-binding growth factor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007479	HGNC:3665
FGF2	fibroblast growth factor 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007489	HGNC:3676
FLT3	receptor-type tyrosine-protein kinase FLT3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002001	HGNC:3765

GDF15	growth/differentiation factor 15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007920	HGNC:30142
HGF	hepatocyte growth factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008534	HGNC:4893
IFNA1	interferon alpha-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009177	HGNC:5417
IFNA10	interferon alpha-10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008911	HGNC:5418
IFNA13	interferon alpha-13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000032985	HGNC:5419
IFNA14	interferon alpha-14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008912	HGNC:5420
IFNA16	interferon alpha-16	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008913	HGNC:5421

IFNA17	interferon alpha-17	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008914	HGNC:5422
IFNA2	interferon alpha-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008915	HGNC:5423
IFNA21	interferon alpha-21	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008916	HGNC:5424
IFNA4	interferon alpha-4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008917	HGNC:5425
IFNA5	interferon alpha-5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008918	HGNC:5426
IFNA6	interferon alpha-6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008919	HGNC:5427
IFNA7	interferon alpha-7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008920	HGNC:5428

IFNA8	interferon alpha-8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008921	HGNC:5429
IFNAR1	interferon-alpha/beta receptor alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008922	HGNC:5432
IFNAR2	interferon-alpha/beta receptor beta chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008923	HGNC:5433
IFNB1	interferon beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000024939	HGNC:5434
IFNE	interferon epsilon	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008925	HGNC:18163
IFNG	interferon gamma	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000017	HGNC:5438
IFNGR1	interferon gamma receptor alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001361	HGNC:5439

IFNGR2	interferon-gamma receptor beta chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008926	HGNC:5440
IFNK	interferon kappa	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008927	HGNC:21714
IFNL1	interleukin-29	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001476	HGNC:18363
IFNL2	interleukin-28A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001469	HGNC:18364
IFNL3	interleukin-28B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001470	HGNC:18365
IFNLR1	interleukin-28 receptor alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009003	HGNC:18584
IL10	interleukin-10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001471	HGNC:5962

IL10RA	interleukin-10 receptor alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001365	HGNC:5964
IL10RB	interleukin-10 receptor beta chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008979	HGNC:5965
IL11	interleukin-11	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001366	HGNC:5966
IL11RA	interleukin-11 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000031108	HGNC:5967
IL12A	interleukin-12 subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001368	HGNC:5969
IL12B	interleukin-12 subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001369	HGNC:5970
IL12RB1	interleukin-12 receptor subunit beta-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001367	HGNC:5971

IL12RB2	interleukin-12 receptor subunit beta-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008980	HGNC:5972
IL13	interleukin-13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001370	HGNC:5973
IL13RA1	interleukin-13 receptor subunit alpha-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001371	HGNC:5974
IL13RA2	interleukin-13 receptor subunit alpha-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001372	HGNC:5975
IL14	alpha-taxilin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001321	-
IL15	interleukin-15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001373	HGNC:5977
IL15RA	interleukin-15 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008981	HGNC:5978

IL16	interleukin-16	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001374	HGNC:5980
IL17A	interleukin-17A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001138	HGNC:5981
IL17B	interleukin-17B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001139	HGNC:5982
IL17C	interleukin-17C	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001140	HGNC:5983
IL17D	interleukin-17D	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001141	HGNC:5984
IL17F	interleukin-17F	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001142	HGNC:16404
IL17RA	interleukin-17 receptor A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001375	HGNC:5985

IL18	interleukin-18	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001376	HGNC:5986
IL19	interleukin-19	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001472	HGNC:5990
IL1A	interleukin-1 alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001135	HGNC:5991
IL1B	interleukin-1 beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001136	HGNC:5992
IL1F10	interleukin-1 family member 10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008987	HGNC:15552
IL1R1	interleukin-1 receptor type I	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001363	HGNC:5993
IL1R2	interleukin-1 receptor type II	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001364	HGNC:5994

IL1RN	interleukin-1 receptor antagonist protein	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001137	HGNC:6000
IL2	interleukin-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001379	HGNC:6001
IL20	interleukin-20	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001473	HGNC:6002
IL20RA	interleukin-20 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008996	HGNC:6003
IL20RB	interleukin-20 receptor subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008997	HGNC:6004
IL21	interleukin-21	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001382	HGNC:6005
IL21R	interleukin-21 receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008998	HGNC:6006

IL22	interleukin-22	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001383	HGNC:14900
IL22RA1	interleukin-22 receptor subunit alpha-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008999	HGNC:13700
IL22RA2	interleukin-22 receptor subunit alpha-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009000	HGNC:14901
IL23A	interleukin-23 subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001384	HGNC:15488
IL23R	interleukin-23 receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009001	HGNC:19100
IL24	interleukin-24	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001474	HGNC:11346
IL25	interleukin-17E	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001113	HGNC:13765

IL26	interleukin-26	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001475	HGNC:17119
IL27	interleukin-27 subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001385	HGNC:19157
IL2RA	interleukin-2 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001380	HGNC:6008
IL2RB	interleukin-2 receptor subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001381	HGNC:6009
IL2RG	cytokine receptor common subunit gamma	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001340	HGNC:6010
IL3	interleukin-3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001387	HGNC:6011
IL31	interleukin-31	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001316	HGNC:19372

IL32	interleukin-32	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001388	HGNC:16830
IL33	interleukin-33	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001389	HGNC:16028
IL34	interleukin-34	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001390	HGNC:28529
IL36G	interleukin-1 family member 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008990	HGNC:15741
IL36RN	interleukin-1 family member 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008988	HGNC:15561
IL3RA	interleukin-3 receptor class 2 alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001865	HGNC:6012
IL4	interleukin-4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001391	HGNC:6014

IL4R	interleukin-4 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001866	HGNC:6015
IL5	interleukin-5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001392	HGNC:6016
IL5RA	interleukin-5 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001867	HGNC:6017
IL6	interleukin-6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001393	HGNC:6018
IL6R	interleukin-6 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001394	HGNC:6019
IL6ST	interleukin-6 receptor subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001868	HGNC:6021
IL7	interleukin-7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001317	HGNC:6023

IL7R	interleukin-7 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001869	HGNC:6024
IL9	interleukin-9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001396	HGNC:6029
IL9R	interleukin-9 receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001397	HGNC:6030
KIT	mast/stem cell growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002065	HGNC:6342
KITLG	kit ligand	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009345	HGNC:6343
LECT1	chondromodulin-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009749	HGNC:17005
LECT2	leukocyte cell-derived chemotaxin-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009750	HGNC:6550

LIF	leukemia inhibitory factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009799	HGNC:6596
LIFR	leukemia inhibitory factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001876	HGNC:6597
LTA	lymphotoxin-alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002204	HGNC:6709
LTBR	tumor necrosis factor receptor superfamily member 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009976	HGNC:6718
MET	hepatocyte growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000010335	HGNC:7029
MIF	macrophage migration inhibitory factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000010413	HGNC:7097
MPL	thrombopoietin receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001939	HGNC:7217

MST1R	macrophage-stimulating protein receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002063	HGNC:7381
OSM	oncostatin-M	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012059	HGNC:8506
OSMR	oncostatin-M-specific receptor subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012060	HGNC:8507
PDGFA	platelet-derived growth factor subunit A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012490	HGNC:8799
PDGFB	platelet-derived growth factor subunit B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012491	HGNC:8800
PDGFRA	alpha-type platelet-derived growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002030	HGNC:8803
PDGFRB	beta-type platelet-derived growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002035	HGNC:8804

PF4	platelet factor 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012569	HGNC:8861
PF4V1	platelet factor 4 variant	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012570	HGNC:8862
PPBP	platelet basic protein	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000013062	HGNC:9240
RETN	resistin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000013896	HGNC:20389
SPP1	osteopontin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000015561	HGNC:11255
TDGF1P2	teratocarcinoma-derived growth factor 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016213	HGNC:11702
TDGF1P3	-	-	HGNC:11703
TGFA	-	-	HGNC:11765
TGFB1	TGF-beta 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000182	HGNC:11766

TGFB2	TGF-beta 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000183	HGNC:11768
TGFB3	TGF-beta 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000184	HGNC:11769
TGFBR1	TGF-beta receptor type-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000047	HGNC:11772
TGFBR2	TGF-beta receptor type-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000005	HGNC:11773
TGFBR3	TGF-beta receptor type-3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000003110	HGNC:11774
THPO	thrombopoietin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016318	HGNC:11795
TNF	tumor necrosis factor alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000134	HGNC:11892

TNFRSF10A	tumor necrosis factor receptor superfamily member 10A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002108	HGNC:11904
TNFRSF10B	tumor necrosis factor receptor superfamily member 10B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002109	HGNC:11905
TNFRSF10C	tumor necrosis factor receptor superfamily member 10C	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001952	HGNC:11906
TNFRSF10D	tumor necrosis factor receptor superfamily member 10D	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001953	HGNC:11907
TNFRSF11A	tumor necrosis factor receptor superfamily member 11A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001954	HGNC:11908
TNFRSF11B	tumor necrosis factor receptor superfamily member 11B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016480	HGNC:11909
TNFRSF13B	tumor necrosis factor receptor superfamily member 13B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001956	HGNC:18153

TNFRSF14	tumor necrosis factor receptor superfamily member 14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016481	HGNC:11912
TNFRSF17	tumor necrosis factor receptor superfamily member 17	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001406	HGNC:11913
TNFRSF18	tumor necrosis factor receptor superfamily member 18	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016482	HGNC:11914
TNFRSF1A	tumor necrosis factor receptor superfamily member 1A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001958	HGNC:11916
TNFRSF1B	tumor necrosis factor receptor superfamily member 1B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001959	HGNC:11917
TNFRSF25	tumor necrosis factor receptor superfamily member 25	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016485	HGNC:11910
TNFRSF4	tumor necrosis factor receptor superfamily member 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001960	HGNC:11918

TNFRSF8	tumor necrosis factor receptor superfamily member 8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001964	HGNC:11923
TNFRSF9	tumor necrosis factor receptor superfamily member 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001965	HGNC:11924
TNFSF11	tumor necrosis factor ligand superfamily member 11	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002107	HGNC:11926
TNFSF12	tumor necrosis factor ligand superfamily member 12	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016487	HGNC:11927
TNFSF13	tumor necrosis factor ligand superfamily member 13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001947	HGNC:11928
TNFSF13B	tumor necrosis factor ligand superfamily member 13B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001948	HGNC:11929
TNFSF14	tumor necrosis factor ligand superfamily member 14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002222	HGNC:11930

TNFSF15	tumor necrosis factor ligand superfamily member 15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002223	HGNC:11931
TNFSF4	tumor necrosis factor ligand superfamily member 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001949	HGNC:11934
TNFSF8	tumor necrosis factor ligand superfamily member 8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001404	HGNC:11938
TNFSF9	tumor necrosis factor ligand superfamily member 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016489	HGNC:11939
XCL1	lymphotactin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002140	HGNC:10645
XCL2	cytokine SCM-1 beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002138	HGNC:10646
XCR1	chemokine XC receptor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001212	HGNC:1625

6. **lk_analyte_cytometry**

Name	Description
gene_symbol_human	

7. **lk_analyte_pcr**

Name	Description	Link	ID
gene_symbol_human			
ACKR3	chemokine receptor CXCR7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001211	HGNC:23692
CCL1	C-C motif chemokine 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001985	HGNC:10609
CCL11	eotaxin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002139	HGNC:10610
CCL12	C-C motif chemokine 12	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006165	-
CCL13	C-C motif chemokine 13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002121	HGNC:10611
CCL14	C-C motif chemokine 14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001986	HGNC:10612

CCL15	C-C motif chemokine 15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001987	HGNC:10613
CCL16	C-C motif chemokine 16	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001988	HGNC:10614
CCL17	C-C motif chemokine 17	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001989	HGNC:10615
CCL18	C-C motif chemokine 18	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001990	HGNC:10616
CCL19	C-C motif chemokine 19	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001991	HGNC:10617
CCL2	C-C motif chemokine 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002122	HGNC:10618
CCL20	C-C motif chemokine 20	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001992	HGNC:10619

CCL21	C-C motif chemokine 21	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001993	HGNC:10620
CCL22	C-C motif chemokine 22	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001994	HGNC:10621
CCL23	C-C motif chemokine 23	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001995	HGNC:10622
CCL24	C-C motif chemokine 24	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001996	HGNC:10623
CCL25	C-C motif chemokine 25	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001801	HGNC:10624
CCL26	C-C motif chemokine 26	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001997	HGNC:10625
CCL27	C-C motif chemokine 27	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001802	HGNC:10626

CCL3	C-C motif chemokine 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002123	HGNC:10627
CCL3L1	-	_	HGNC:10628
CCL3L3	C-C motif chemokine 3-like 1, full-length form	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000019256	HGNC:30554
CCL3P1	-	_	HGNC:10629
CCL4	C-C motif chemokine 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002124	HGNC:10630
CCL4L1	-	_	HGNC:10631
CCL4L2	C-C motif chemokine 4-like	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005112	HGNC:24066
CCL5	small inducible cytokine A5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002094	HGNC:10632
CCL6	C-C motif chemokine 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006166	-

CCL7	C-C motif chemokine 7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002125	HGNC:10634
CCL8	C-C motif chemokine 8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002126	HGNC:10635
CCL9	C-C motif chemokine 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006167	-
CCR1	chemokine receptor CCR1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001254	HGNC:1602
CCR10	C-C chemokine receptor type 10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001198	HGNC:4474
CCR2	C-C chemokine receptor type 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001199	HGNC:1603
CCR3	chemokine receptor CCR3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001255	HGNC:1604

CCR4	C-C chemokine receptor type 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001200	HGNC:1605
CCR5	C-C chemokine receptor type 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001201	HGNC:1606
CCR6	C-C chemokine receptor type 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001202	HGNC:1607
CCR7	C-C chemokine receptor type 7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001203	HGNC:1608
CCR8	C-C chemokine receptor type 8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001204	HGNC:1609
CCR9	C-C chemokine receptor type 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001205	HGNC:1610
CD27	CD27 molecule	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001963	HGNC:11922

CD4	CD4 molecule	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001004	HGNC:1678
CD40	tumor necrosis factor receptor superfamily member 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001961	HGNC:11919
CD40LG	tumor necrosis factor ligand superfamily member 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001950	HGNC:11935
CD70	CD70 molecule	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001309	HGNC:11937
CKLF	chemokine-like factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005514	HGNC:13253
CLCF1	cardiotrophin-like cytokine factor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005527	HGNC:17412
CMTM1	CKLF-like MARVEL transmembrane domain-containing protein 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000029358	HGNC:19172

CMTM6	CKLF-like MARVEL transmembrane domain-containing protein 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000029359	HGNC:19177
CMTM7	CKLF-like MARVEL transmembrane domain-containing protein 7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000031311	HGNC:19178
CNTFR	ciliary neurotrophic factor receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005664	HGNC:2170
CSF1	macrophage colony-stimulating factor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005930	HGNC:2432
CSF1R	macrophage colony-stimulating factor 1 receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002062	HGNC:2433
CSF2	granulocyte-macrophage colony-stimulating factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005931	HGNC:2434
CSF2RA	granulocyte-macrophage colony-stimulating factor receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001354	HGNC:2435

CSF2RB	cytokine receptor common beta chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001339	HGNC:2436
CSF3	granulocyte colony-stimulating factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000005932	HGNC:2438
CSF3R	granulocyte colony-stimulating factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001353	HGNC:2439
CX3CL1	fractalkine	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001855	HGNC:10647
CX3CR1	CX3C chemokine receptor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001206	HGNC:2558
CXCL1	growth-regulated alpha protein	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006063	HGNC:4602
CXCL10	C-X-C motif chemokine 10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006064	HGNC:10637

CXCL11	C-X-C motif chemokine 11	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006065	HGNC:10638
CXCL12	stromal cell-derived factor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006066	HGNC:10672
CXCL13	C-X-C motif chemokine 13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006067	HGNC:10639
CXCL14	C-X-C motif chemokine 14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006068	HGNC:10640
CXCL15	C-X-C motif chemokine 15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006217	-
CXCL16	C-X-C motif chemokine 16	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001804	HGNC:16642
CXCL17	VEGF co-regulated chemokine 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001805	HGNC:19232

CXCL2	C-X-C motif chemokine 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006069	HGNC:4603
CXCL3	C-X-C motif chemokine 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006070	HGNC:4604
CXCL5	C-X-C motif chemokine 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006071	HGNC:10642
CXCL6	C-X-C motif chemokine 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006072	HGNC:10643
CXCL8	interleukin-8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001395	HGNC:6025
CXCL9	C-X-C motif chemokine 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006073	HGNC:7098
CXCR1	high affinity interleukin-8 receptor A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001256	HGNC:6026

CXCR2	high affinity interleukin-8 receptor B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001257	HGNC:6027
CXCR3	C-X-C chemokine receptor type 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001207	HGNC:4540
CXCR4	C-X-C chemokine receptor type 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001208	HGNC:2561
CXCR5	C-X-C chemokine receptor type 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001209	HGNC:1060
CXCR6	C-X-C chemokine receptor type 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001210	HGNC:16647
EBI3	interleukin-27 subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001386	HGNC:3129
EGF	pro-epidermal growth factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006928	HGNC:3229

EGFR	epidermal growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000006933	HGNC:3236
EPO	erythropoietin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007141	HGNC:3415
EPOR	erythropoietin receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007142	HGNC:3416
FAS	tumor necrosis factor receptor superfamily member 6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001962	HGNC:11920
FGF1	heparin-binding growth factor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007479	HGNC:3665
FGF2	fibroblast growth factor 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007489	HGNC:3676
FLT3	receptor-type tyrosine-protein kinase FLT3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002001	HGNC:3765

GDF15	growth/differentiation factor 15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000007920	HGNC:30142
HGF	hepatocyte growth factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008534	HGNC:4893
IFNA1	interferon alpha-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009177	HGNC:5417
IFNA10	interferon alpha-10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008911	HGNC:5418
IFNA13	interferon alpha-13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000032985	HGNC:5419
IFNA14	interferon alpha-14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008912	HGNC:5420
IFNA16	interferon alpha-16	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008913	HGNC:5421

IFNA17	interferon alpha-17	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008914	HGNC:5422
IFNA2	interferon alpha-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008915	HGNC:5423
IFNA21	interferon alpha-21	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008916	HGNC:5424
IFNA4	interferon alpha-4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008917	HGNC:5425
IFNA5	interferon alpha-5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008918	HGNC:5426
IFNA6	interferon alpha-6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008919	HGNC:5427
IFNA7	interferon alpha-7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008920	HGNC:5428

IFNA8	interferon alpha-8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008921	HGNC:5429
IFNAR1	interferon-alpha/beta receptor alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008922	HGNC:5432
IFNAR2	interferon-alpha/beta receptor beta chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008923	HGNC:5433
IFNB1	interferon beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000024939	HGNC:5434
IFNE	interferon epsilon	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008925	HGNC:18163
IFNG	interferon gamma	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000017	HGNC:5438
IFNGR1	interferon gamma receptor alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001361	HGNC:5439

IFNGR2	interferon-gamma receptor beta chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008926	HGNC:5440
IFNK	interferon kappa	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008927	HGNC:21714
IFNL1	interleukin-29	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001476	HGNC:18363
IFNL2	interleukin-28A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001469	HGNC:18364
IFNL3	interleukin-28B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001470	HGNC:18365
IFNLR1	interleukin-28 receptor alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009003	HGNC:18584
IL10	interleukin-10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001471	HGNC:5962

IL10RA	interleukin-10 receptor alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001365	HGNC:5964
IL10RB	interleukin-10 receptor beta chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008979	HGNC:5965
IL11	interleukin-11	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001366	HGNC:5966
IL11RA	interleukin-11 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000031108	HGNC:5967
IL12A	interleukin-12 subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001368	HGNC:5969
IL12B	interleukin-12 subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001369	HGNC:5970
IL12RB1	interleukin-12 receptor subunit beta-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001367	HGNC:5971

IL12RB2	interleukin-12 receptor subunit beta-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008980	HGNC:5972
IL13	interleukin-13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001370	HGNC:5973
IL13RA1	interleukin-13 receptor subunit alpha-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001371	HGNC:5974
IL13RA2	interleukin-13 receptor subunit alpha-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001372	HGNC:5975
IL14	alpha-taxilin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001321	-
IL15	interleukin-15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001373	HGNC:5977
IL15RA	interleukin-15 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008981	HGNC:5978

IL16	interleukin-16	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001374	HGNC:5980
IL17A	interleukin-17A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001138	HGNC:5981
IL17B	interleukin-17B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001139	HGNC:5982
IL17C	interleukin-17C	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001140	HGNC:5983
IL17D	interleukin-17D	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001141	HGNC:5984
IL17F	interleukin-17F	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001142	HGNC:16404
IL17RA	interleukin-17 receptor A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001375	HGNC:5985

IL18	interleukin-18	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001376	HGNC:5986
IL19	interleukin-19	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001472	HGNC:5990
IL1A	interleukin-1 alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001135	HGNC:5991
IL1B	interleukin-1 beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001136	HGNC:5992
IL1F10	interleukin-1 family member 10	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008987	HGNC:15552
IL1R1	interleukin-1 receptor type I	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001363	HGNC:5993
IL1R2	interleukin-1 receptor type II	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001364	HGNC:5994

IL1RN	interleukin-1 receptor antagonist protein	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001137	HGNC:6000
IL2	interleukin-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001379	HGNC:6001
IL20	interleukin-20	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001473	HGNC:6002
IL20RA	interleukin-20 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008996	HGNC:6003
IL20RB	interleukin-20 receptor subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008997	HGNC:6004
IL21	interleukin-21	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001382	HGNC:6005
IL21R	interleukin-21 receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008998	HGNC:6006

IL22	interleukin-22	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001383	HGNC:14900
IL22RA1	interleukin-22 receptor subunit alpha-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008999	HGNC:13700
IL22RA2	interleukin-22 receptor subunit alpha-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009000	HGNC:14901
IL23A	interleukin-23 subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001384	HGNC:15488
IL23R	interleukin-23 receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009001	HGNC:19100
IL24	interleukin-24	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001474	HGNC:11346
IL25	interleukin-17E	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001113	HGNC:13765

IL26	interleukin-26	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001475	HGNC:17119
IL27	interleukin-27 subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001385	HGNC:19157
IL2RA	interleukin-2 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001380	HGNC:6008
IL2RB	interleukin-2 receptor subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001381	HGNC:6009
IL2RG	cytokine receptor common subunit gamma	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001340	HGNC:6010
IL3	interleukin-3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001387	HGNC:6011
IL31	interleukin-31	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001316	HGNC:19372

IL32	interleukin-32	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001388	HGNC:16830
IL33	interleukin-33	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001389	HGNC:16028
IL34	interleukin-34	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001390	HGNC:28529
IL36G	interleukin-1 family member 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008990	HGNC:15741
IL36RN	interleukin-1 family member 5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000008988	HGNC:15561
IL3RA	interleukin-3 receptor class 2 alpha chain	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001865	HGNC:6012
IL4	interleukin-4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001391	HGNC:6014

IL4R	interleukin-4 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001866	HGNC:6015
IL5	interleukin-5	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001392	HGNC:6016
IL5RA	interleukin-5 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001867	HGNC:6017
IL6	interleukin-6	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001393	HGNC:6018
IL6R	interleukin-6 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001394	HGNC:6019
IL6ST	interleukin-6 receptor subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001868	HGNC:6021
IL7	interleukin-7	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001317	HGNC:6023

IL7R	interleukin-7 receptor subunit alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001869	HGNC:6024
IL9	interleukin-9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001396	HGNC:6029
IL9R	interleukin-9 receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001397	HGNC:6030
KIT	mast/stem cell growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002065	HGNC:6342
KITLG	kit ligand	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009345	HGNC:6343
LECT1	chondromodulin-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009749	HGNC:17005
LECT2	leukocyte cell-derived chemotaxin-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009750	HGNC:6550

LIF	leukemia inhibitory factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009799	HGNC:6596
LIFR	leukemia inhibitory factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001876	HGNC:6597
LTA	lymphotoxin-alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002204	HGNC:6709
LTBR	tumor necrosis factor receptor superfamily member 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000009976	HGNC:6718
MET	hepatocyte growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000010335	HGNC:7029
MIF	macrophage migration inhibitory factor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000010413	HGNC:7097
MPL	thrombopoietin receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001939	HGNC:7217

MST1R	macrophage-stimulating protein receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002063	HGNC:7381
OSM	oncostatin-M	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012059	HGNC:8506
OSMR	oncostatin-M-specific receptor subunit beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012060	HGNC:8507
PDGFA	platelet-derived growth factor subunit A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012490	HGNC:8799
PDGFB	platelet-derived growth factor subunit B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012491	HGNC:8800
PDGFRA	alpha-type platelet-derived growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002030	HGNC:8803
PDGFRB	beta-type platelet-derived growth factor receptor	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002035	HGNC:8804

PF4	platelet factor 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012569	HGNC:8861
PF4V1	platelet factor 4 variant	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000012570	HGNC:8862
PPBP	platelet basic protein	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000013062	HGNC:9240
RETN	resistin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000013896	HGNC:20389
SPP1	osteopontin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000015561	HGNC:11255
TDGF1P2	teratocarcinoma-derived growth factor 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016213	HGNC:11702
TDGF1P3	-	-	HGNC:11703
TGFA	-	-	HGNC:11765
TGFB1	TGF-beta 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000182	HGNC:11766

TGFB2	TGF-beta 2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000183	HGNC:11768
TGFB3	TGF-beta 3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000184	HGNC:11769
TGFBR1	TGF-beta receptor type-1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000047	HGNC:11772
TGFBR2	TGF-beta receptor type-2	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000005	HGNC:11773
TGFBR3	TGF-beta receptor type-3	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000003110	HGNC:11774
THPO	thrombopoietin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016318	HGNC:11795
TNF	tumor necrosis factor alpha	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000000134	HGNC:11892

TNFRSF10A	tumor necrosis factor receptor superfamily member 10A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002108	HGNC:11904
TNFRSF10B	tumor necrosis factor receptor superfamily member 10B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002109	HGNC:11905
TNFRSF10C	tumor necrosis factor receptor superfamily member 10C	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001952	HGNC:11906
TNFRSF10D	tumor necrosis factor receptor superfamily member 10D	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001953	HGNC:11907
TNFRSF11A	tumor necrosis factor receptor superfamily member 11A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001954	HGNC:11908
TNFRSF11B	tumor necrosis factor receptor superfamily member 11B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016480	HGNC:11909
TNFRSF13B	tumor necrosis factor receptor superfamily member 13B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001956	HGNC:18153

TNFRSF14	tumor necrosis factor receptor superfamily member 14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016481	HGNC:11912
TNFRSF17	tumor necrosis factor receptor superfamily member 17	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001406	HGNC:11913
TNFRSF18	tumor necrosis factor receptor superfamily member 18	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016482	HGNC:11914
TNFRSF1A	tumor necrosis factor receptor superfamily member 1A	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001958	HGNC:11916
TNFRSF1B	tumor necrosis factor receptor superfamily member 1B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001959	HGNC:11917
TNFRSF25	tumor necrosis factor receptor superfamily member 25	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016485	HGNC:11910
TNFRSF4	tumor necrosis factor receptor superfamily member 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001960	HGNC:11918

TNFRSF8	tumor necrosis factor receptor superfamily member 8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001964	HGNC:11923
TNFRSF9	tumor necrosis factor receptor superfamily member 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001965	HGNC:11924
TNFSF11	tumor necrosis factor ligand superfamily member 11	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002107	HGNC:11926
TNFSF12	tumor necrosis factor ligand superfamily member 12	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016487	HGNC:11927
TNFSF13	tumor necrosis factor ligand superfamily member 13	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001947	HGNC:11928
TNFSF13B	tumor necrosis factor ligand superfamily member 13B	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001948	HGNC:11929
TNFSF14	tumor necrosis factor ligand superfamily member 14	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002222	HGNC:11930

TNFSF15	tumor necrosis factor ligand superfamily member 15	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002223	HGNC:11931
TNFSF4	tumor necrosis factor ligand superfamily member 4	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001949	HGNC:11934
TNFSF8	tumor necrosis factor ligand superfamily member 8	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001404	HGNC:11938
TNFSF9	tumor necrosis factor ligand superfamily member 9	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000016489	HGNC:11939
XCL1	lymphotactin	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002140	HGNC:10645
XCL2	cytokine SCM-1 beta	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000002138	HGNC:10646
XCR1	chemokine XC receptor 1	http://pir.georgetown.edu/cgi-bin/pro/entry_pro?id=PR:000001212	HGNC:1625

8. **lk_base_pop_name**

Name	Description	Link
base_parent_pop_preferred		
activated CCR4+ Treg	activated CD4-positive, CD25-positive, CCR4-positive, alpha-beta regulatory T cell, human	http://purl.obolibrary.org/obo/CL_0001048
activated CD4+ T cell	activated CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0001043
activated CD8+ T cell	activated CD8-positive, alpha-beta T cell, human	http://purl.obolibrary.org/obo/CL_0001049
B cell	B cell	http://purl.obolibrary.org/obo/CL_0000236
CCR4+ Treg	naive CCR4-positive regulatory T cell	http://purl.obolibrary.org/obo/CL_0001045
CD16+ CD56+ NK cell	CD16-positive, CD56-dim natural killer cell	http://purl.obolibrary.org/obo/CL_0000939
CD16+ monocyte	CD14-positive, CD16-positive monocyte	http://purl.obolibrary.org/obo/CL_0002397
CD16- CD56bright NK cell	CD16-negative, CD56-bright natural killer cell	http://purl.obolibrary.org/obo/CL_0000938
CD16- monocyte	CD14-positive, CD16-negative classical monocyte	http://purl.obolibrary.org/obo/CL_0002057
CD4+ T cell	CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000624
CD8+ T cell	CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000625
central memory CD4+ T cell	central memory CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000904
central memory CD8+ T cell	central memory CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000907

dendritic cell	dendritic cell	http://purl.obolibrary.org/obo/CL_0000451
effector CD4+ T cell	effector CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0001044
effector CD8+ T cell	effector CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0001050
effector memory CD4+ T cell	effector memory CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000905
effector memory CD8+ T cell	effector memory CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000913
IgD+ memory B cell	unswitched memory B cell	http://purl.obolibrary.org/obo/CL_0000970
IgD- memory B cell	IgD-negative memory B cell	http://purl.obolibrary.org/obo/CL_0001053
Live/Dead	Viable cells	http://purl.obolibrary.org/obo/PATO_0000169
memory B cell	memory B cell	http://purl.obolibrary.org/obo/CL_0000787
memory CCR4+ Treg	memory CCR4-positive regulatory T cell	http://purl.obolibrary.org/obo/CL_0001046
monocyte	monocyte	http://purl.obolibrary.org/obo/CL_0000576
myeloid dendritic cell	myeloid dendritic cell	http://purl.obolibrary.org/obo/CL_0000782
naive B cell	naive B cell	http://purl.obolibrary.org/obo/CL_0000788
naive CCR4+ Treg	naive CCR4-positive regulatory T cell	http://purl.obolibrary.org/obo/CL_0001045

naive CD4+ T cell	naive thymus-derived CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000895
naive CD8+ T cell	naive thymus-derived CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000900
NK cell	natural killer cell	http://purl.obolibrary.org/obo/CL_0000623
NK T cell	mature NK T cell	http://purl.obolibrary.org/obo/CL_0000814
non-Tc1/Tc17 CD8+ T cell	Tc2 cell	http://purl.obolibrary.org/obo/CL_0001052; http://purl.obolibrary.org/obo/CL_0000918
non-Th1/Th17 CD4+ T cell	T-helper 2 cell	http://purl.obolibrary.org/obo/CL_0000546
PBMC	peripheral blood mononuclear cell	http://purl.obolibrary.org/obo/CL_2000001
plasmablast	plasmablast	http://purl.obolibrary.org/obo/CL_0000980
plasmacytoid dendritic cell	plasmacytoid dendritic cell	http://purl.obolibrary.org/obo/CL_0000784
T cell	T cell	http://purl.obolibrary.org/obo/CL_0000084
Tc1 CD8+ T cell	Tc1 cell	http://purl.obolibrary.org/obo/CL_0000917
Tc17 CD8+ T cell	Tc17 cell	http://purl.obolibrary.org/obo/CL_0002128
Th1 CD4+ T cell	T-helper 1 cell	http://purl.obolibrary.org/obo/CL_0000545

Th17 CD4+ T cell	T-helper 17 cell	http://purl.obolibrary.org/obo/CL_0000899
Total Cells	NA	NA
transitional B cell	transitional stage B cell	http://purl.obolibrary.org/obo/CL_0000818
Treg	CD4-positive, CD25+, alpha-beta regulatory T cell	http://purl.obolibrary.org/obo/CL_0000792

9. **lk_cell_pop_statistic_unit**

Name	Description	Link
preferred_statistic_unit		
cells	cell count	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C48938&ns=NCI_Thesaurus
cells/ul	A unit of cell concentration expressed as a number of cells per unit volume equal to one microliter.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C67242&ns=NCI_Thesaurus
MFI at 90th percentile	Mean Fluorescence Intensity at 90th Percentile. MFI : A unit of measure equal to the geometric mean fluorescence intensity of a log-normal distribution of fluorescence signals.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C96687&ns=NCI_Thesaurus

Not_Specified	No value provided. Not stated explicitly or in detail.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C38046&ns=NCI_Thesaurus
percentage	A fraction or ratio with 100 understood as the denominator. e.g. percentage of a cell population of interest within a parent population	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C25613&ns=NCI_Thesaurus
stim/unstim fold change	Fold change comparing stimulated vs unstimulated sample	

10. **lk_cell_population**

Name	Description	Link
population_name_preferred ; population_defnition_preferred		
activated CCR4+ Treg ; CD3+, CD4+, CD127lo, CD25+, CCR4+, HLA-DR+	activated CD4-positive, CD25-positive, CCR4-positive, alpha-beta regulatory T cell, human	http://purl.obolibrary.org/obo/CL_0001048
activated CD4+ T cell ; CD3+, CD4+, CD8-, CD38+, HLA-DR+	activated CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0001043
activated CD8+ T cell ; CD3+, CD4-, CD8+, CD38+, HLA-DR+	activated CD8-positive, alpha-beta T cell, human	http://purl.obolibrary.org/obo/CL_0001049
B cell ; CD3-, CD19+ , CD20+	B cell	http://purl.obolibrary.org/obo/CL_0000236
CCR4+ Treg ; CD3+, CD4+, CD127lo, CD25+, CCR4+	naive CCR4-positive regulatory T cell	http://purl.obolibrary.org/obo/CL_0001045
CD16+ CD56+ NK cell ; CD3-, Lin-, CD14-, HLA-DR-, CD16+, CD56+	CD16-positive, CD56-dim natural killer cell	http://purl.obolibrary.org/obo/CL_0000939

CD16+ monocyte ; Lin-, CD14+, CD16+	CD14-positive, CD16-positive monocyte	http://purl.obolibrary.org/obo/CL_0002397
CD16- CD56bright NK cell ; CD3-, Lin-, CD14-, HLA-DR-, CD16-, CD56++	CD16-negative, CD56-bright natural killer cell	http://purl.obolibrary.org/obo/CL_0000938
CD16- monocyte ; Lin-, CD14+, CD16-	CD14-positive, CD16-negative classical monocyte	http://purl.obolibrary.org/obo/CL_0002057
CD4+ T cell ; CD3+, CD4+	CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000624
CD8+ T cell ; CD3+, CD8+	CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000625
central memory CD4+ T cell ; CD3+, CD4+, CD8-, CCR7+, CD45RA-	central memory CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000904
central memory CD8+ T cell ; CD3+, CD4-, CD8+, CCR7+, CD45RA-	central memory CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000907
dendritic cell ; Lin-, CD14-, CD16-, CD56-, HLA-DR+(?)	dendritic cell	http://purl.obolibrary.org/obo/CL_0000451
effector CD4+ T cell ; CD3+, CD4+, CD8-, CCR7-, CD45RA+	effector CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0001044
effector CD8+ T cell ; CD3+, CD4-, CD8+, CCR7-, CD45RA+	effector CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0001050
effector memory CD4+ T cell ; CD3+, CD4+, CD8-, CCR7-, CD45RA-	effector memory CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000905
effector memory CD8+ T cell ; CD3+, CD4-, CD8+, CCR7-, CD45RA-	effector memory CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000913
IgD+ memory B cell ; CD3-, CD19+, CD20+, CD27+, IgD+	unswitched memory B cell	http://purl.obolibrary.org/obo/CL_0000970
IgD- memory B cell ; CD3-, CD19+, CD20+, CD27+, IgD-	IgD-negative memory B cell	http://purl.obolibrary.org/obo/CL_0001053

Live/Dead ; Living cells gated from dead cells	Viable cells	http://purl.obolibrary.org/obo/PATO_0000169
memory B cell ; CD3-, CD19+, CD20+, CD27+	memory B cell	http://purl.obolibrary.org/obo/CL_0000787
memory CCR4+ Treg ; CD3+, CD4+, CD127lo, CD25+, CCR4+, CD45RO+	memory CCR4-positive regulatory T cell	http://purl.obolibrary.org/obo/CL_0001046
monocyte ; Lin-, CD14+	monocyte	http://purl.obolibrary.org/obo/CL_0000576
myeloid dendritic cell ; Lin-, CD14-, CD16-, CD56-, HLA-DR+, CD11c+, CD123-	myeloid dendritic cell	http://purl.obolibrary.org/obo/CL_0000782
naive B cell ; CD3-, CD19+, CD20+, CD27-, IgD+	naive B cell	http://purl.obolibrary.org/obo/CL_0000788
naive CCR4+ Treg ; CD3+, CD4+, CD127lo, CD25+, CCR4+, CD45RO-	naive CCR4-positive regulatory T cell	http://purl.obolibrary.org/obo/CL_0001045
naive CD4+ T cell ; CD3+, CD4+, CD8-, CCR7+, CD45RA+	naive thymus-derived CD4-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000895
naive CD8+ T cell ; CD3+, CD4-, CD8+, CCR7+, CD45RA+	naive thymus-derived CD8-positive, alpha-beta T cell	http://purl.obolibrary.org/obo/CL_0000900
NK cell ; CD3-, CD56+	natural killer cell	http://purl.obolibrary.org/obo/CL_0000623
NK T cell ; CD3+, CD56+, CD14-, CD33-	mature NK T cell	http://purl.obolibrary.org/obo/CL_0000814
non-Tc1/Tc17 CD8+ T cell ; CD3+, CD4-, CD8+, CXCR3-, CCR6-	Tc2 cell	http://purl.obolibrary.org/obo/CL_0001052; http://purl.obolibrary.org/obo/CL_0000918
non-Th1/Th17 CD4+ T cell ; CD3+, CD4+, CD8-, CXCR3-, CCR6-	T-helper 2 cell	http://purl.obolibrary.org/obo/CL_0000546

PBMC ; A leukocyte with a single non-segmented nucleus in the mature form found in the circulatory pool of blood.	peripheral blood mononuclear cell	http://purl.obolibrary.org/obo/CL_2000001
plasmablast ; CD3-, CD19+, CD20-, CD27hi, CD38hi	plasmablast	http://purl.obolibrary.org/obo/CL_0000980
plasmacytoid dendritic cell ; Lin-, CD14-, CD16-, CD56-, HLA-DR+, CD11c-, CD123+	plasmacytoid dendritic cell	http://purl.obolibrary.org/obo/CL_0000784
T cell ; CD3+	T cell	http://purl.obolibrary.org/obo/CL_0000084
Tc1 CD8+ T cell ; CD3+, CD4-, CD8+, CXCR3+, CCR6-	Tc1 cell	http://purl.obolibrary.org/obo/CL_0000917
Tc17 CD8+ T cell ; CD3+, CD4-, CD8+, CXCR3-, CCR6+	Tc17 cell	http://purl.obolibrary.org/obo/CL_0002128
Th1 CD4+ T cell ; CD3+, CD4+, CD8-, CXCR3+, CCR6-	T-helper 1 cell	http://purl.obolibrary.org/obo/CL_0000545
Th17 CD4+ T cell ; CD3+, CD4+, CD8-, CXCR3-, CCR6+	T-helper 17 cell	http://purl.obolibrary.org/obo/CL_0000899
Total Cells ; All cells in a sample	NA	NA
transitional B cell ; CD3-, CD19+, CD20+, CD24hi, CD38hi	transitional stage B cell	http://purl.obolibrary.org/obo/CL_0000818
Treg ; CD3+, CD4+, CD127lo, CD25+	CD4-positive, CD25+, alpha-beta regulatory T cell	http://purl.obolibrary.org/obo/CL_0000792

11. **lk_compound_role**

Name	Description	Link
Allergy Test Treatment	Compound Role is Allergy Test Treatment.	http://purl.bioontology.org/ontology/MEDDRA/10053462

Concomitant Medication	Compound Role is Concomitant Medication.	http://www.semanticweb.org/ontologies/2012/0/Ontology1325521724189.owl#Concomitant_medication
Infection	Compound Role is Infection.	
Intervention	Compound Role is Intervention.	http://www.ebi.ac.uk/efo/EFO_0002571
Not_Specified	Compound Role is not specified or not received. If no Compound Role value is received, then this is the system default value.	
Other	Compound Role is Other.	
Substance Use	Compound Role is Substance Use.	http://purl.bioontology.org/ontology/MEDDRA/10070964

12. **lk_criterion_category**

Name	Description	Link
Exclusion	Exclusion Criterion used to evaluate whether a subject is a candidate for exclusion in a study.	https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C25370&ns=NCI_Thesaurus
Inclusion	Inclusion Criterion used to evaluate whether a subject is a candidate for inclusion in a study.	https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=15.07d&code=C25532&ns=NCI_Thesaurus&key=810018085&b=1&n=null

13. **lk_ethnicity**

Name	Description	Link
Hispanic or Latino	A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term, "Spanish origin," can be used in addition to "Hispanic or Latino."	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
Not Hispanic or Latino	A person not of Hispanic or Latino origin.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
Not_Specified	Ethnicity is not specified or not received. If no Ethnicity value is received, then this is the system default value.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
Other	A person having an Ethnicity that is some Other value not in CV Terms.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm

14. **lk_exon_intron_interrogated**

Name	Description
Exon_1	
Exon_1_and_2	
Exon_1_and_2_and_3	
Exon_2	
Exon_2_and_3	
Exon_3	
Exon_4	
Exon_5	
Exon_6	
Exon_7	
Exon_8	
Intron_1	
Intron_2	
Intron_3	
Intron_4	
Intron_5	

Intron_6	
Intron_7	

15. **lk_exp_measurement_tech**

Name	Description	Link
1D_Gel	One dimensional gels are used to separate an analyte using one physical feature of the analyte.	http://purl.obolibrary.org/obo/OBI_0001121
2D_Gel	Two dimensional gels are used to separate an analyte using two physical features of the analyte.	http://purl.obolibrary.org/obo/OBI_0001121
Array	Arrays (including microarrays) are a set of probes immobilized on a surface. The probes can be oligonucleotides, cDNAs, antibodies and other molecules that recognize a target. Microarrays can be constructed by several methods including (but not limited to in situ oligo synthesis (e.g. Affymetrix), cDNA spotting, bead arrays (e.g. Illumina) and antibody spotting. The position and identity of probes are provided by the manufacturer. The probe identifiers and their target are referred to as annotation or translation of probe identifiers to bioinformatic identifiers. Microarrays can be used for gene expression (mRNA transcript quantification), genotyping, cytokine quantification, etc. Microarrays for gene expression fall into two general classes- single channel and dual channel. The channel refers to the wavelength scanned for fluorescent signals. Affymetrix microarrays are obligatory single channel. There are a host of commercial and non-commercial microarray meanufacturers that use two c	http://purl.obolibrary.org/obo/OBI_0400147; http://purl.obolibrary.org/obo/OBI_0001204; http://purl.obolibrary.org/obo/OBI_0001307; http://purl.obolibrary.org/obo/OBI_0400149
Cell_Culture	A cell culture includes the cells in culture, as well as the media and all additives in which the cells are being grown or in which they are stored.	http://purl.obolibrary.org/obo/OBI_0001876
Circular_Dichroism	Circular Dichroism is a form of spectroscopy used to determine the optical isomerism and secondary structure of molecules.	http://en.wikipedia.org/wiki/Circular_Dichroism

CyTOF	Cytometry Time Of Flight CyTOF (DVS Sciences) or Mass cytometry, or , is a variation of flow cytometry in which antibodies are labeled with heavy metal ion tags rather than fluorochromes. Readout is by time-of-flight mass spectrometry.	http://en.wikipedia.org/wiki/Mass_cytometry
ELISA	Enzyme-Linked ImmunoSorbant Assay. Quantification of a molecule (e.g cytokine) by an antibody immobilization strategy.	http://purl.obolibrary.org/obo/OBI_0000661
ELISPOT	Enzyme-linked ImmunoSPOT. A variant of ELISA with increased resolution that allows quantifying the number of cells in a population that release a molecule (e.g. cytokine).	http://purl.obolibrary.org/obo/OBI_0600031
EMSA	Electrophoretic mobility shift assay is an assay which aims to provide information about Protein-DNA or Protein-RNA interaction and which used gel electrophoresis and relies on the fact the molecular interactions will cause the heterodimer to be retarded on the gel when compared to controls corresponding to protein extract alone and protein extract + neutral nucleic acid.	http://purl.obolibrary.org/obo/OBI_0001671
Exome_Sequencing	Technique for sequencing all the protein-coding genes in a genome (known as the exome). Sequencing process which uses deoxyribonucleic acid as input and results in a the creation of DNA sequence information artifact.	http://purl.obolibrary.org/obo/OBI_0000626; http://en.wikipedia.org/wiki/Exome_sequencing
FCM	Fluorescence Activated Cell Sorting	http://purl.obolibrary.org/obo/OBI_0000916
Hemagglutination_Inhibition	Quantitate serum antibody to a specific antigen by blocking agglutination of cells.	http://purl.obolibrary.org/obo/OBI_0000875
HLA_TYPING	Human Leukocyte Antigen typing.	http://purl.obolibrary.org/obo/OBI_0000435
HPLC	High Performace Liquid Chromotography is used to separate components of a mixture by using a variety of chemical interactions between the substance being analyzed (analyte) and the chromatography column.	http://purl.obolibrary.org/obo/OBI_0001057

Immunoblot	a western blot analysis is an assay which allows detection of protein present in a extract resolved on polyacrylamide gel by electrophoresis, transfered to a membrane made of nitrocellulose or polyvinylidene difluoride and immobilized using formaldehyde based cross linking.	http://purl.obolibrary.org/obo/OBI_0000854
Immunoprecipitation	An assay with the objective to determine presence of an analyte by mixing a solution of antigen and antibody and separating out bound antigen:antibody complexes using immunoprecipitation.	http://purl.obolibrary.org/obo/OBI_0001700
in_situ_Hybridization	Uses a labelled complementary DNA or RNA strand (i.e., probe) to localize a specific DNA or RNA sequence in a portion or section of tissue (in situ), or the entire tissue (whole mount ISH), in cells and in circulating tumor cells (CTCs).	http://en.wikipedia.org/wiki/In_situ_hybridization
KIR_TYPING	Killer cell immunoglobulin-like receptors.	http://purl.obolibrary.org/obo/OBI_0000435
Line_Probe_Assay	PCR amplification of a genomic region is performed using biotinylated primers. Following amplification, labelled PCR products are hybridized with specific oligonucleotide probes immobilized on a strip.	http://purl.obolibrary.org/obo/OBI_0000892
Liquid_Chromatography	Chromatography is the collective term for a family of laboratory techniques for the separation of mixtures. It involves passing a mixture which contains the analyte through a stationary phase, which separates it from other molecules in the mixture and allows it to be isolated.	http://purl.obolibrary.org/obo/OBI_0001057
Luminex_xMAP	Microsphere based multiplexing system. Microspheres are color coded and linked to a detector or capture reagent (e.g. antibody, oligonucleotides, peptides, or receptors).	http://purl.obolibrary.org/obo/OBI_0000920
Mass_Spectrometry	Mass spectrometry is an analytical technique used to measure the mass-to-charge ratio of ions.	http://purl.obolibrary.org/obo/OBI_0000470
Meso_Scale_Discovery_ECL	MSD Electrochemiluminescence (ECL) detection uses labels that emit light when electrochemically stimulated.	http://en.wikipedia.org/wiki/Electrochemiluminescence

Microscopy	Visualization of very small entities from cellular to sub-cellular and molecular resolution depending on technique.	http://purl.obolibrary.org/obo/OBI_0400169
Mixed_Lymphocyte_Reaction	Mixed lymphocyte reaction test is a measure of histocompatibility at the HLA locus. Peripheral blood lymphocytes from two individuals are mixed together in tissue culture for several days; lymphocytes from incompatible individuals will stimulate each other to proliferate significantly (e.g. measured by tritiated thymidine uptake) whereas those from compatible individuals will not; in the one\-way MLC test, the lymphocytes from one of the individuals are inactivated thereby allowing only the untreated remaining population of cells to proliferate in response to foreign histocompatibility antigens.	http://en.wikipedia.org/wiki/Tissue_typing
Molecular_Cloning	Molecular cloning refers to the procedure isolating a DNA sequence of interest and obtaining multiple copies of it in an organism.	http://purl.obolibrary.org/obo/OBI_0600064
Nanostring	Nanostring technology uses molecular "barcodes" and single molecule imaging to detect and count hundreds of unique transcripts in a single reaction.	http://www.nanostring.com/applications/technology
NMR	Nuclear Magnetic Resonance spectroscopy is a technique for determining the structure of organic compounds.	http://purl.obolibrary.org/obo/OBI_0000623
Northern_Blot	Northern blots are a derivative of Southern blots where RNA that has been size fractionated (often by 1-D gel electrophoresis) is immobilized on a substrate (e.g. a charged nylon membrane). The blot is(are) hybridized with a labeled probe(s). The position on the blot and the intensity of the label's signal can be used to estimate RNA size and concentration, respectively.	http://purl.obolibrary.org/obo/OBI_0000860
Optical_Density	Optical Density is a class of techniques to measure the amount of light absorbed/transmitted by a sample. The sample O.D. is compared to a standard curve to interpolate the sample's concentration of an analyte.	http://en.wikipedia.org/wiki/Optical_Density
Other	Other Experiment Measurement Technique not listed.	

PCR	Polymerase Chain Reaction is a technique to amplify a DNA template.	http://purl.obolibrary.org/obo/OBI_0000415
Q-PCR	Quantitative Polymerase Chain Reaction is used to measure the gene expression of transcripts by comparing the number of cycles in a sample needed to reach a certain threshold value with the known quantities of a transcript needed to reach the same threshold.	http://purl.obolibrary.org/obo/OBI_0000415
RNA_sequencing	Sequencing process which uses ribonucleic acid as input and results in a the creation of RNA sequence information artifact.	http://purl.obolibrary.org/obo/OBI_0001177; http://purl.obolibrary.org/obo/OBI_0001271
Rnase_Protection_Assay	A laboratory technique to identify individual RNA molecules in a heterogeneous RNA sample extracted from cells.	http://en.wikipedia.org/wiki/RNase_protection_assay
Sequencing	Sequencing is used to discover new sequence variants and to genotype a sample for known variants.	http://purl.obolibrary.org/obo/OBI_0600047
Southern_Blot	A Southern blot is a method of capturing DNA molecules that have been seperated by agarose gel electrophoresis for subsequent analysis.	http://purl.obolibrary.org/obo/OBI_0000892
Surface_Plasmon_Resonance	An assay that uses the detection of electromagnetic waves in a surface to detect material entities adsorbed to the surface, which changes the local index of refraction.	http://purl.obolibrary.org/obo/OBI_0000923
TCID50	50 percent Tissue Culture Infective Dose, (TCID50) is the measure of infectious virus titer. This endpoint dilution assay quantifies the amount of virus required to kill 50% of infected hosts or to produce a cytopathic effect in 50% of inoculated tissue culture cells.	http://en.wikipedia.org/wiki/Virus_Quantification
Virus_Neutralization	Block a viral function.	http://purl.obolibrary.org/obo/OBI_0000872

Western_Blot	Western blot is a method in molecular biology/biochemistry/immunogenetics to detect protein in a given sample of tissue homogenate or extract. It uses gel electrophoresis to separate denatured proteins by mass. The proteins are then transferred out of the gel and onto a membrane (typically nitrocellulose), where they are probed using antibodies specific to the protein. As a result, researchers can examine the amount of protein in a given sample and compare levels between several groups. Other techniques also using antibodies allow detection of proteins in tissues (immunohistochemistry) and cells (immunocytochemistry). The confirmatory HIV test employs a western blot to detect anti-HIV antibody in a human serum sample. A Western blot is also used as the definitive test for Bovine spongiform encephalopathy (BSE, commonly referred to as 'mad cow disease'). Some forms of Lyme disease testing employ Western blotting.	http://purl.obolibrary.org/obo/OBI_0000854
Whole_Genome_Sequencing	Laboratory process that determines the complete DNA sequence of an organism's genome at a single time. Sequencing process which uses deoxyribonucleic acid as input and results in a the creation of DNA sequence information artifact	http://purl.obolibrary.org/obo/OBI_0000626; http://en.wikipedia.org/wiki/Whole_genome_sequencing
Yeast_Two_Hybrid	Two-hybrid screening is a molecular biology technique used to discover protein-protein interactions by testing for physical interactions (such as binding) between two proteins.	http://purl.obolibrary.org/obo/OBI_0001679

16. **lk_experiment_type**

Name	Description	Link
CD8_T_cell_recall_clonotypes	CD8 tells you what kind of T cell, recall implies a stimulation with a recall antigen, clonotypes implies sequences of some sort.	http://purl.obolibrary.org/obo/OBI_0000070
Cellular_Activity	A planned process with the objective to produce information about the material entity that is the evaluant, by physically examining it or its proxies.	http://purl.obolibrary.org/obo/OBI_0000070

Cellular_Phenotype	The physical characteristics of a cell (e.g cell surface markers).	http://purl.obolibrary.org/obo/OBI_0000070
Cellular_Quantification	Quantify the number of cells in a sample that express a repetoire of cell surface antigens.	http://purl.obolibrary.org/obo/OBI_0000916
Cytokine_Quantification	Quantify the production and/or release of a cytokine by a cell(s) in response to a stimulus(i)/treatment(s).	http://purl.obolibrary.org/obo/OBI_0000615
Enzyme_Activity	What does an enzyme do. What are the kinetics. How is it modulated.	http://purl.obolibrary.org/obo/OBI_0000070
Epitope_Mapping	Identify the portion of an antigen recognized by an antibody.	http://purl.obolibrary.org/obo/OBI_0000070
Genotyping	Determine DNA sequence at locus in the genome. Compare sequence to canonical sequence and known variants.	http://purl.obolibrary.org/obo/OBI_0000435
Library Preparation	Process which results in the creation of a library from fragments of DNA.	http://purl.obolibrary.org/obo/OBI_0000711
Localization	Where is an entity found at a given time.	http://purl.obolibrary.org/obo/OBI_0000070
Molecular_Activity	A planned process with the objective to produce information about the material entity that is the evaluant, by physically examining it or its proxies.	http://purl.obolibrary.org/obo/OBI_0000070
Molecular_Quantification	Quantify other biomolecules (e.g. protein, hnRNA, DNA, lipids, fats, sugars, amino acids).	http://purl.obolibrary.org/obo/OBI_0000070
Neutralizing_Antibody_Titer	Measure the concentration (by titration) of antibody that can neutralize an antigen.	http://purl.obolibrary.org/obo/OBI_0000872
Other	Other Experiment Type not listed.	http://purl.obolibrary.org/obo/OBI_0000070

Protein_Quantification	A planned process which aims to provide information about protein expression and translation activity using protein extracts collected from a material entity using a range of techniques and instrument such as Mass spectrometers, Gel electrophoresis, Western Blots, Protein microarrays.	http://purl.obolibrary.org/obo/OBI_0000615
Sample_Preparation	A sample_preparation_for_assay is a protocol_application including material_enrollments and biomaterial_transformations.	http://purl.obolibrary.org/obo/OBI_0000073
Transcript_Quantification	Quantify the processed mRNA transcribed from a gene. The mRNA is often converted to cDNA or cRNA.	http://purl.obolibrary.org/obo/OBI_0000424
Virus_Titer	Measure the concentration of a virus by titration (dilution).	http://purl.obolibrary.org/obo/FLU_0000867

17. **lk_feature_location**

Name	Description
3'_UTR	
5'_UTR	
Exon_1	
Exon_2	
Exon_3	
Exon_4	
Exon_5	
Exon_6	
Exon_7	
Intron_1	
Intron_2	
Intron_3	
Intron_4	
Intron_5	
Intron_6	

18. **lk_feature_sequence_type**

Name	Description
nucleotide	
peptide	

19. **lk_feature_strand**

Name	Description
complementary	
reference	

20. **lk_feature_type**

Name	Description
epitope	
primer	
probe	

21. **lk_gender**

Name	Description	Link
Female	Gender is Female.	http://purl.bioontology.org/ontology/SNOMEDCT/139867007
Male	Gender is Male.	http://purl.bioontology.org/ontology/SNOMEDCT/248153007
Not_Specified	Gender is not specified or not received. If no gender value is received, then this is the system default value.	
Other	Gender is Other. Value may be used to differeniate as neither Male or Female.	
Unknown	Gender is Unknown. Value may be used to signify that gender is unknown at the time.	

22. **lk_kir_exon_intron_interrogate**

Name	Description
Exon_1	Exon 1.
Exon_2	Exon 2.
Exon_3	Exon 3.
Exon_4	Exon 4.
Exon_5	Exon 5.

Exon_6	Exon 6.
Exon_7	Exon 7.
Exon_8	Exon 8.
Exon_9	Exon 9.
Intron_1	Intron 1.
Intron_2	Intron 2.
Intron_3	Intron 3.
Intron_4	Intron 4.
Intron_5	Intron 5.
Intron_6	Intron 6.
Intron_7	Intron 7.
Intron_8	Intron 8.

23. **lk_kir_gene**

Name	Description
2DL1	IMGT KIR Locus name 2DL1.
2DL2	IMGT KIR Locus name 2DL2.
2DL2/3	IMGT KIR Locus name 2DL2/3.
2DL3	IMGT KIR Locus name 2DL3.
2DL4	IMGT KIR Locus name 2DL4.
2DL5	IMGT KIR Locus name 2DL5.
2DL5A	IMGT KIR Locus name 2DL5A.
2DL5B	IMGT KIR Locus name 2DL5B.
2DP1	IMGT KIR Locus name 2DP1.
2DS1	IMGT KIR Locus name 2DS1.
2DS2	IMGT KIR Locus name 2DS2.
2DS3	IMGT KIR Locus name 2DS3.
2DS3/5	IMGT KIR Locus name 2DS3/5.
2DS4	IMGT KIR Locus name 2DS4.
2DS5	IMGT KIR Locus name 2DS5.
3DL1	IMGT KIR Locus name 3DL1.
3DL1/DS1	IMGT KIR Locus name 3DL1/DS1.
3DL2	IMGT KIR Locus name 3DL2.
3DL3	IMGT KIR Locus name 3DL3.
3DP1	IMGT KIR Locus name 3DP1.
3DS1	IMGT KIR Locus name 3DS1.
Subject Haplotype(s)	IMGT KIR Subject Haplotype(s).

24. **lk_kir_last_pertinent_release**

Name	Description

2002_Report	Last Pertinent Release = 2002_Report.
Other	Last Pertinent Release = Other.
Release_1.0.0_17-Jul-03	Last Pertinent Release = Release_1.0.0_17-Jul-03.
Release_1.1.0_24-Jan-05	Last Pertinent Release = Release_1.1.0_24-Jan-05.
Release_1.1.1_11-Sep-05	Last Pertinent Release = Release_1.1.1_11-Sep-05.
Release_1.2.0_10-Mar-06	Last Pertinent Release = Release_1.2.0_10-Mar-06.
Release_1.2.1_23-Mar-06	Last Pertinent Release = Release_1.2.1_23-Mar-06.
Release_1.3.0_10-Nov-06	Last Pertinent Release = Release_1.3.0_10-Nov-06.
Release_1.4.0_04-Jun-07	Last Pertinent Release = Release_1.4.0_04-Jun-07.
Release_2.0.0_18-Jan-08	Last Pertinent Release = Release_2.0.0_18-Jan-08.
Release_2.0.1_17-Sep-08	Last Pertinent Release = Release_2.0.1_17-Sep-08.
Release_2.1.0_20-Feb-09	Last Pertinent Release = Release_2.1.0_20-Feb-09.
Release_2.2.0_25-May-10	Last Pertinent Release = Release_2.2.0_25-May-10.
Release_2.3.0_16-Aug-10	Last Pertinent Release = Release_2.3.0_16-Aug-10.
Release_2.4.0_15-Apr-11	Last Pertinent Release = Release_2.4.0_15-Apr-11.
Release_2.5.0_11-Oct-13	Last Pertinent Release = Release_2.5.0_11-Oct-13.
Unknown	Last Pertinent Release = Unknown.

25. **lk_kir_locus**

Name	Description
KIR2DL1	IMGT KIR Locus name KIR2DL1.
KIR2DL2	IMGT KIR Locus name KIR2DL2.
KIR2DL3	IMGT KIR Locus name KIR2DL3.
KIR2DL4	IMGT KIR Locus name KIR2DL4.
KIR2DL5	IMGT KIR Locus name KIR2DL5.
KIR2DL5A	IMGT KIR Locus name KIR2DL5A.
KIR2DL5B	IMGT KIR Locus name KIR2DL5B.
KIR2DP1	IMGT KIR Locus name KIR2DP1.
KIR2DS1	IMGT KIR Locus name KIR2DS1.
KIR2DS2	IMGT KIR Locus name KIR2DS2.
KIR2DS3	IMGT KIR Locus name KIR2DS3.
KIR2DS4	IMGT KIR Locus name KIR2DS4.

KIR2DS5	IMGT KIR Locus name KIR2DS5.
KIR3DL1	IMGT KIR Locus name KIR3DL1.
KIR3DL2	IMGT KIR Locus name KIR3DL2.
KIR3DL3	IMGT KIR Locus name KIR3DL3.
KIR3DP1	IMGT KIR Locus name KIR3DP1.
KIR3DS1	IMGT KIR Locus name KIR3DS1.
Subject Haplotype(s)	IMGT KIR Subject Haplotype(s).

26. **lk_kir_present_absent**

Name	Description
-	Value not specified or not received.
A	Value of Absent.
Absent	Value of Absent (preferred).
ND	No Data.
No	Value of Present=No (equivalent to Absent).
P	Value of Present.
Present	Value of Present (preferred).
Yes	Value of Present=Yes (equivalent to Present).

27. **lk_kir_reagent**

Name	Description
antibody	KIR Reagent name is 'antibody'.
forward primer	KIR Reagent name is 'forward primer'.
fosmid	KIR Reagent name is 'fosmid'.
microarray	KIR Reagent name is 'microarray'.
other	KIR Reagent name is 'other'.
probe	KIR Reagent name is 'probe'.
reverse primer	KIR Reagent name is 'reverse primer'.
set	KIR Reagent name is 'set'.

28. **lk_kir_typing_method**

Name	Description
Fosmid_Paired-End_Sequence_Comparison	KIR Typing Method is 'Fosmid_Paired-End_Sequence_Comparison'.
Mass_Spectrometry	KIR Typing Method is 'Mass_Spectrometry'.
Microarray-Based_Comparative_Genomic_Hybridization	KIR Typing Method is 'Microarray-Based_Comparative_Genomic_Hybridization'.

Other	KIR Typing Method is 'Other'.
PCR_Single_Stranded_Oligo_Probe_PCR_SSOP	KIR Typing Method is 'PCR_Single_Stranded_Oligo_Probe_PCR_SSOP'.
Sequence_Based_Typing_SBT	KIR Typing Method is 'Sequence_Based_Typing_SBT'.
Sequence_Specific_Priming_SSP	KIR Typing Method is 'Sequence_Specific_Priming_SSP'.
Serology	KIR Typing Method is 'Serology'.
Single_Nucleotide_Polymorphism_SNP	KIR Typing Method is 'Single_Nucleotide_Polymorphism_SNP'.
Single_Stranded_Conformational_Polymorphisms_SSCP	KIR Typing Method is 'Single_Stranded_Conformational_Polymorphisms_SSCP'.

29. **lk_lab_test_name**

Name	Description	Link	ID
preferred_test_name			
25-Hydroxyvitamin D Measurement	A measurement of the total inactive Vitamin D in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C92268	VITDIT
Acanthocytes	A measurement of the acanthocytes per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74699	ACANT
Acanthocytes/Erythrocytes	A relative measurement (ratio or percentage) of acanthocytes to all erythrocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74633	ACANTRBC

Activated Partial Thromboplastin Time	A measurement of the length of time that it takes for clotting to occur when reagents are added to a plasma specimen. The test is partial due to the absence of tissue factor (Factor III) from the reaction mixture.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	APTT
Alanine Aminotransferase	A measurement of the alanine aminotransferase in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	ALT
Albumin	A measurement of the albumin protein in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	ALB
Albumin/Creatinine	A relative measurement (ratio or percentage) of the albumin to the creatinine in a urine sample.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	ALBCREAT
Alkaline Phosphatase	A measurement of the alkaline phosphatase in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	ALP
Anisocytes	A measurement of the inequality in the size of the red blood cells in a whole blood specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74797	ANISO

Anti-DNA Antibodies	A measurement of the anti-DNA antibodies in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81973	DNAAB
Anti-Double Stranded DNA	A measurement of the anti-double stranded DNA antibody in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74913	ADSDNA
Anti-Saccharomyces cerevisiae Antibody	A measurement of the anti-Saccharomyces cerevisiae antibody in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81976	ASCAB
Antiglobulin Test, Direct	A measurement of the antibody or complement-coated erythrocytes in a blood specimen in vivo.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81974	ANGLOBDR
Antimitochondrial Antibodies	A measurement of the antimitochondrial antibodies in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81975	AMA

Antinuclear Antibodies	A measurement of the antinuclear antibodies (antibodies that attack the body's own tissue) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74916	ANA
Aspartate Aminotransferase	A measurement of the aspartate aminotransferase in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	AST
Aspartate Aminotransferase Antigen	A measurement of the aspartate aminotransferase antigen in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81978	ASTAG
Auer Rods	A measurement of the Auer rods (elongated needle structures that are found in the cytoplasm of leukemic blasts and are formed by clumps of azurophilic granular material) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74657	AUERRODS

Basophils	A measurement of the basophils per unit of a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/42351005; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64470	BASO
Basophils/Leukocytes	A relative measurement (ratio or percentage) of the basophils to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64471	BASOLE
Beta-2 Glycoprotein Antibody	A measurement of the beta-2 glycoprotein antibody in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81979	B2GLYAB
Bicarbonate	A measurement of the bicarbonate in a biological specimen	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	BICARB
Bilirubin	A measurement of the total bilirubin in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	BILI

Bite Cells	A measurement of the bite cells (erthrocytes with the appearance of a bite having been removed, due to oxidative hemolysis) in a biological specimen .	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74700	BITECE
Bite Cells/Erythrocytes	A relative measurement of the bite cells (erthrocytes with the appearance of a bite having been removed, due to oxidative hemolysis) to all erythrocytes in a biological specimen .	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74634	BTECERBC
Blasts	A measurement of the blast cells per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74605	BLAST
Blasts/Leukocytes	A relative measurement (ratio or percentage) of the blasts to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64487	BLASTLE
Blood Urea Nitrogen	A measurement of the urea nitrogen in a blood specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	BUN

Burr Cells	A measurement of the Burr cells (erythrocytes characterized by the presence of small, blunt projections evenly distributed across the cell surface) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74701	BURRCE
C Reactive Protein	A measurement of the C reactive protein in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	CRP
Cabot Rings	A measurement of the Cabot rings (red-purple staining, threadlike, ring or figure 8 shaped filaments in in an erythrocyte) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74702	CABOT
Calcium	A measurement of the calcium in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	CA
Cancer Antigen 125	A measurement of the cancer antigen 125 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C79089	CA125AG

Cancer Antigen 19-9	A measurement of the cancer antigen 18-9 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81982	CA19_9AG
Carcinoembryonic Antigen	A measurement of the carcinoembryonic antigen in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81983	CEA
CD19	A count of the CD19 B cells per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103808	CD19
CD19/Lymphocytes	A relative measurement (ratio or percentage) of CD19 B cells to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103812	CD19LY

CD3	A count of the CD3 T cells per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103809	CD3
CD3/Lymphocytes	A relative measurement (ratio or percentage) of CD3 T cells to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103813	CD3LY
CD4	A count of the CD4 T cells per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103810	CD4
CD4/CD8	A relative measure (ratio or percentage) of CD4 T cells to the CD8 T cells in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103814	CD4CD8

CD4/Lymphocytes	A relative measurement (ratio or percentage) of CD4 T cells to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103815	CD4LY
CD40	A measurement of the CD40 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C82006	CD40
CD40 Ligand	A measurement of the CD40 ligand in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C82007	CD40L
CD8	A count of the CD8 T cells per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103811	CD8

CD8/Lymphocytes	A relative measurement (ratio or percentage) of CD8 T cells to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C103816	CD8LY
Chloride	A measurement of the chloride in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	CL
Cholesterol	A measurement of the cholesterol in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	CHOL
Cholesterol/HDL-Cholesterol	A relative measurement (ratio or percentage) of total cholesterol to high-density lipoprotein cholesterol (HDL-C) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80171	
Complement Bb	A measurement of the complement Bb in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80172	CBB

Complement C1q Antibody	A measurement of the complement C1q antibody in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80173	C1QAB
Complement C3	A measurement of the complement C3 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80174	C3
Complement C3a	A measurement of the complement C3a in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80175	C3A
Complement C3b	A measurement of the complement C3b in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80176	C3B
Complement C4	A measurement of the complement C4 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80177	C4

Complement C4a	A measurement of the complement C4a in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80178	C4A
Complement C5a	A measurement of the complement C5a in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80179	C5A
Complement Total	A measurement of the total complement in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C80160	CTOT
Creatine Kinase	A measurement of the total creatine kinase in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	CK
Creatinine	A measurement of the creatinine in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	CREAT

Crenated Cells	A measurement of the Burr cells (erythrocytes characterized by the presence of multiple small, sharp projections evenly distributed across the cell surface) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74703	CRENCE
Cytomegalovirus Viral Load Measurement	The determination of the amount of cytomegalovirus viral load present in a sample.	http://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C98716&ns=NCI_Thesaurus	CMVVLD
Dacryocytes	A measurement of dacryocytes in unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64801	TEARDCY
Dohle Bodies	A measurement of the Dohle bodie (blue-gray, basophilic, leukocyte inclusions located in the peripheral cytoplasm of neutrophils) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74610	DOHLE
Elliptocytes	A measurement of the elliptically shaped erythrocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64549	ELLIPCY

Eosinophil Metamyelocytes	A measurement of the eosinphil metamyelocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C84819	EOSMM
Eosinophil Myelocytes	A measurement of the eosinophil myelocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C84821	EOSMYL
Eosinophils	A measurement of the eosinophils per unit in a biological specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/71960002; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64550	EOS
Eosinophils/Leukocytes	A relative measurement (ratio or percentage) of the eosinophils to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64604	EOSLE

Ery. Mean Corpuscular Hemoglobin	A quantitative measurement of the mean amount of hemoglobin per erythrocyte in a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/37254006; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64797	MCH
Ery. Mean Corpuscular HGB Concentration	A quantitative measurement of the mean amount of hemoglobin per erythrocytes in a specified volume of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64798	MCHC
Ery. Mean Corpuscular Volume	A quantitative measurement of the mean volume of erythrocytes in a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/104133003; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64799	MCV
Erythrocyte Sedimentation Rate	The distance (e.g. millimeters) that red blood cells settle in unclotted blood over a specified unit of time (e.g. one hour)	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74611	ESR

Erythrocytes	A measurement of the total erythrocytes per unit of a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/14089001; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C51946	RBC
Erythrocytes Distribution Width	A value derived from mean corpuscular volume and the standard deviation of the red blood cell volume in a whole blood specimen.	http://purl.biontology.org/ontology/SNOMEDCT/66842004; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64800	RDW
Giant Platelets	A measurement of the giant (larger than 7um in diameter) platelets in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74728	PLATGNT
Glucose	A measurement of the glucose in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	GLUC

Glutamic Acid Decarboxylase 2 Antibody	A measurement of the glutamic acid decarboxylase 2 antibody in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C82017	GAD2AB
Hairy Cells	A measurement of the hairy cells (b-cell lymphocytes with hairy projections from the cytoplasm) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74604	HAIRYCE
Hairy Cells/Lymphocytes	A measurement (ratio or percentage) of the hairy cells (b-cell lymphocytes with hairy projections from the cytoplasm) to all lymphocytes in a biological specimen .	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74640	HRYCELY
HDL Cholesterol	A measurement of the high density lipoprotein cholesterol in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	HDL
Heinz Bodies	A measurement of the Heinz bodies (small round inclusions within the body of a red blood cell) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74709	HEINZ

Helmet Cells	A measurement of the Helmet cells (specialized Keratocytes with two projections on either end that are tapered and hornlike) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74658	HELMETCE
Hematocrit	The percentage of a whole blood specimen that is composed of red blood cells (erythrocytes).	http://purl.bioontology.org/ontology/SNOMEDCT/250231008; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64796	HCT
Hemoglobin	A measurement of the hemoglobin in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64848	HGB
Hepatitis A Virus Surface Antibody	A measurement of the surface antibody reaction of a biological specimen to the Hepatitis A virus.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74710	HASAB

Hepatitis B Virus Surface Antibody	A measurement of the surface antibody reaction of a biological specimen to the Hepatitis B virus.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74711	HBSAB
Hepatitis B Virus Surface Antigen	A measurement of the surface antigen reaction of a biological specimen to the Hepatitis B virus.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64850	HBSAG
Hepatitis C Virus Surface Antibody	A measurement of the surface antibody reaction of a biological specimen to the Hepatitis C virus.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74712	HCSAB
Heterophile Antibodies	A measurement of the heterophile antibodies in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81984	HTPHAB
HIV-1 Antibody	A measurement of the antibody reaction of a biological specimen to the HIV-1 virus.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74713	HIV1AB

HIV-1/2 Antibody	A measurement of the antibody reaction of a biological specimen to the either the HIV-1 or HIV-2 virus.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74714	HIV12AB
HIV-2 Antibody	A measurement of the antibody reaction of a biological specimen to the HIV-2 virus.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74715	HIV2AB
Howell-Jolly Bodies	A measurement of the Howell-Jolly bodies (spherical, blue-black condensed DNA inclusions within the body of a red blood cell that appear under Wright-stain) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74704	HOWJOL
Hypersegmented Cells	A measurement of the hypersegmented (more than five lobes) neutrophils in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74612	HYPSEGCE
Hypochromia	An observation which indicates that the hemoglobin concentration in a red blood cell specimen has fallen below a specified level.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64802	HPOCROM

Immunoglobulin A	A measurement of the Immunoglobulin A in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81969	IGA
Immunoglobulin E	A measurement of the Immunoglobulin E in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81970	IGE
Immunoglobulin G	A measurement of the Immunoglobulin G in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81971	IGG
Immunoglobulin M	A measurement of the Immunoglobulin M in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81972	IGM
Interferon Alpha	A measurement of the interferon alpha in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81994	IFNA

Interferon Beta	A measurement of the interferon beta in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81995	IFNB
Interferon Gamma	A measurement of the interferon gamma in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81996	IFNG
Interleukin 1	A measurement of the interleukin 1 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74805	INTLK1
Interleukin 10	A measurement of the interleukin 10 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74806	INTLK10
Interleukin 11	A measurement of the interleukin 11 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74807	INTLK11

Interleukin 12	A measurement of the interleukin 12 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74808	INTLK12
Interleukin 13	A measurement of the interleukin 13 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74809	INTLK13
Interleukin 14	A measurement of the interleukin 14 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74810	INTLK14
Interleukin 15	A measurement of the interleukin 15 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74811	INTLK15
Interleukin 16	A measurement of the interleukin 16 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74812	INTLK16

Interleukin 17	A measurement of the interleukin 17 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74813	INTLK17
Interleukin 18	A measurement of the interleukin 18 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74814	INTLK18
Interleukin 19	A measurement of the interleukin 19 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74815	INTLK19
Interleukin 2	A measurement of the interleukin 2 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74816	INTLK2
Interleukin 20	A measurement of the interleukin 20 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74817	INTLK20

Interleukin 21	A measurement of the interleukin 21 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74818	INTLK21
Interleukin 22	A measurement of the interleukin 22 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74819	INTLK22
Interleukin 23	A measurement of the interleukin 23 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74820	INTLK23
Interleukin 24	A measurement of the interleukin 24 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74821	INTLK24
Interleukin 25	A measurement of the interleukin 25 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74822	INTLK25

Interleukin 26	A measurement of the interleukin 26 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74823	INTLK26
Interleukin 27	A measurement of the interleukin 27 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74824	INTLK27
Interleukin 28	A measurement of the interleukin 28 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74825	INTLK28
Interleukin 29	A measurement of the interleukin 29 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74826	INTLK29
Interleukin 3	A measurement of the interleukin 3 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74827	INTLK3

Interleukin 30	A measurement of the interleukin 30 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74828	INTLK30
Interleukin 31	A measurement of the interleukin 31 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74829	INTLK31
Interleukin 32	A measurement of the interleukin 32 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74830	INTLK32
Interleukin 33	A measurement of the interleukin 33 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74831	INTLK33
Interleukin 4	A measurement of the interleukin 4 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74832	INTLK4

Interleukin 5	A measurement of the interleukin 5 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74833	INTLK5
Interleukin 6	A measurement of the interleukin 6 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74834	INTLK6
Interleukin 7	A measurement of the interleukin 7 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74835	INTLK7
Interleukin 8	A measurement of the interleukin 8 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74836	INTLK8
Interleukin 9	A measurement of the interleukin 9 in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74837	INTLK9

Islet Cell 512 Antibody	A measurement of the islet cell 512 antibody in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81985	IC512AB
Islet Cell 512 Antigen	A measurement of the islet cell 512 antigen in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81986	IC512AG
Islet Neogenesis Associated Protein Antibody	A measurement of the islet neogenesis associated protein antibody in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81987	INGAPAB
Large Platelets	A measurement of the large (between 4 um and 7um in diameter) platelets in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74729	PLATLRG
Large Unstained Cells	A measurement of the large, peroxidase-negative cells which cannot be further characterized (i.e. as large lymphocytes, virocytes, or stem cells) present in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74659	LGUNSCE

Large Unstained Cells/Leukocytes	A relative measure (ratio or percentage) of the large unstained cells to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C79467	LGLUCLE
LDL Cholesterol	A measurement of the low density lipoprotein cholesterol in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	LDL
Leukemic Blasts	A measurement of the leukemic blasts (lymphoblasts that remain in an immature state even when outside the bone marrow) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74630	BLASTLM
Leukemic Blasts/Lymphocytes	A relative measurement (ratio or percentage) of the leukemic blasts (immature lymphoblasts) to mature lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74641	BLSTLMLY

Leukocytes	A measurement of the leukocytes per unit of a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/767002; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C51948	WBC
Lymphocytes	A measurement of the lymphocytes per unit of a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/74765001; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C51949	LYM
Lymphocytes Atypical	A measurement of the atypical lymphocytes per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64818	LYMAT
Lymphocytes Atypical/Leukocytes	A relative measurement (ratio or percentage) of the atypical lymphocytes to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64819	LYMATLE

Lymphocytes/Leukocytes	A relative measurement (ratio or percentage) of the lymphocytes to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64820	LYMLE
Lymphoma Cells	A measurement of the malignant lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74613	LYMMCE
Lymphoma Cells/Lymphocytes	A relative measurement (ratio or percentage) of the malignant lymphocytes to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74910	LYMMCELY
Macrocytes	A measurement of the macrocytes per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64821	MACROCY
Malignant Cells, NOS	A measurement of the malignant cells of all types in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74660	MLIGCE

Malignant Cells, NOS/Blood Cells	A relative measurement (ratio or percentage) of the malignant cells of all types to all blood cells in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74643	MLIGCEBC
Mature Plasma Cells	A measurement of the mature plasma cells (plasmacytes) in a biological specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/270924002; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74661	PLSMCE
Mature Plasma Cells/Lymphocytes	A relative measurement (ratio or percentage) of the mature plasma cells (plasmacytes) to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74911	PLSMCELY
May-Hegglin Anomaly	A measurement of the May-Hegglin Anomaly (which is characterized by large, misshapen platelets and the presence of Dohle bodies in the leukocytes) in a blood specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74614	MAYHEG

Mean Platelet Volume	A measurement of the average size of the platelets found in a blood specimen.	http://purl.biontology.org/ontology/SNOMEDCT/75672003; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74730	MPV
Metamyelocytes	A measurement of the metamyelocytes (small, myelocytic neutrophils with an indented nucleus) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74615	METAMY
Metamyelocytes/Leukocytes	A relative measurement (ratio or percentage)of the metamyelocytes (small, myelocytic neutrophils with an indented nucleus) to all leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74645	METAMYLE
Microcytes	A measurement of the microcytes per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64822	MICROCY

Monoblasts	A measurement of the monoblast cells per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74631	MONOBL
Monoblasts/Leukocytes	A relative measurement (ratio or percentage) of monoblast cells to all leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74646	MONOBLLE
Monocytes	A measurement of the monocytes per unit of a biological specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/67776007; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64823	MONO
Monocytes/Leukocytes	A relative measure (ratio or percentage) of the monocytes to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64824	MONOLE

Myeloblasts	A measurement of the myeloblast cells per unit of a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/104103005; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74632	MYBLA
Myeloblasts/Leukocytes	A relative measurement (ratio or percentage) of the myeloblasts to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64825	MYBLALE
Myelocytes	A measurement of the myelocytes per unit of a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/104099000; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74662	MYCY
Myelocytes/Leukocytes	A relative measurement (ratio or percentage) of the myelocytes to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64826	MYCYLE

Myoglobin	A measurement of myoglobin in a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/33606006; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C79436	MGB
Neutrophilic Metamyelocytes	A measurement of the neutrophilic metamyelocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C84822	NEUTMM
Neutrophilic Myelocytes	A measurement of the neutrophilic myelocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C84823	NEUTMY
Neutrophils	A measurement of the neutrophils per unit of a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/30630007; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C63321	NEUT

Neutrophils Band Form	A measurement of the banded neutrophils per unit of a biological specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/25340006; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64830	NEUTB
Neutrophils Band Form/Leukocytes	A relative measurement (ratio or percentage) of the banded neutrophils to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64831	NEUTBLE
Neutrophils, Segmented	A measurement of the segmented neutrophils in a biological specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/104096007; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81997	NEUTSG
Neutrophils, Segmented/Leukocytes	A relative measurement (ratio or percentage) of segmented neutrophils to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C82045	NEUTSGLE

Neutrophils/Leukocytes	A relative measurement (ratio or percentage) of the neutrophils to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64827	NEUTLE
Nucleated Erythrocytes	A measurement of the nucleated red blood cells (large, immature nucleated erythrocytes) in a biological specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/104098008; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74705	RBCNUC
Nucleated Erythrocytes/Erythrocytes	A relative measurement (ratio or percentage) of the nucleated red blood cells (large, immature nucleated erythrocytes) to all erythrocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74647	RBCNURBC
Nucleated Erythrocytes/Leukocytes	A relative measurement (ratio or percentage) of nucleated erythrocytes to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C82046	RBCNUCLE

Pappenheimer Bodies	A measurement of the Pappenheimer Bodies (violet or blue staining, ferritin granules usually found along the periphery of the red blood cells) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74616	PAPPEN
Parathyroid Hormone, Intact	A measurement of the intact parathyroid hormone (consisting of amino acids 1-84 or 7-84) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74789	PTHI
Pelger Huet Anomaly	A measurement of the Pelger Huet Anomaly (neutrophils and eosinophils nuclei appear rodlike, spherical or dumbbell shapped) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74617	PELGERH
Pemphigoid Antibodies	A measurement of the pemphigoid antibodies in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81988	PEMAB
Phosphate	A measurement of the phosphate in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	PHOS

Plasmacytoid Lymphocytes	A measurement of the plasmacytoid lymphocytes (lymphocytes with peripherally clumped chromatin and often deep blue cytoplasm, and that appear similar to plasma cells) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74618	LYMPL
Plasmacytoid Lymphocytes/Lymphocytes	A relative measurement (ratio or percentage) of the plasmacytoid lymphocytes (lymphocytes with peripherally clumped chromatin and often deep blue cytoplasm, and that appear similar to plasma cells) to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74648	LYMPLLY
Plasminogen Activator Inhibitor-1 Antigen	A measurement of the plasminogen activator inhibitor-1 antigen in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81989	PAI1AG
Platelet Distribution Width	A mesurement of the range of platelet sizes in a blood specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/250313005; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81962	PDW

Platelets	A measurement of the platelets per unit of a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/61928009; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C51951	PLAT
Poikilocytes	A measurement of the odd-shaped erythrocytes in a whole blood specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C79602	POIKILO
Poikilocytes/Erythrocytes	A relative measurement (ratio or percentage) of the poikilocytes irregularly shaped erythrocytes to all erythrocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74649	POIKRBC
Polychromasia	A measurement of the blue-staining characteristic of newly generated erythrocytes.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64803	POLYCHR
Polymorphonuclear leukocyte count	Polymorphonuclear leukocyte count	http://purl.biontology.org/ontology/SNOMEDCT/116708001	

Potassium	A measurement of the potassium in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	K
Precursor Plasma Cells	A measurement of the precursor (blast stage) plasma cells (antibody secreting cells derived from B cells via antigen stimulation) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74619	PLSPCE
Precursor Plasma Cells/Lymphocytes	A relative measurement (ratio or percentage) of the precursor (blast stage) plasma cells (antibody secreting cells derived from B cells via antigen stimulation) to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74650	PLSPCELY
Prolymphocytes	A measurement of the prolymphocytes in a biological specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/104101007; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74620	PROLYM

Prolymphocytes/Leukocytes	A relative measurement (ratio or percentage) of prolymphocytes to leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64829	PRLYMLE
Prolymphocytes/Lymphocytes	A relative measurement (ratio or percentage) of prolymphocytes to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74651	PROLYMLY
Promonocytes	A measurement of the promonocytes per unit of a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74621	PROMONO
Promonocytes/Leukocytes	A relative measurement (ratio or percentage) of promonocytes to all leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74652	PROMONLE

Promyelocytes	A measurement of the promyelocytes (immature myelocytes) in a biological specimen.	http://purl.biontology.org/ontology/SNOMEDCT/104100008; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74622	PROMY
Promyelocytes/Leukocytes	A relative measurement (ratio or percentage) of the promyelocytes (immature myelocytes) to all leukocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74653	PROMYLE
Prostate Specific Antigen	A measurement of the prostate specific antigen in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C17634	PSA
Protein	A measurement of a group of complex organic macromolecules composed of one or more alpha-L-amino acid chains in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	PROT
Protein/Creatinine	A relative measurement (ratio or percentage) of the protein to creatinine in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	PROTCRT

Prothrombin time	A blood clotting measurement that evaluates the extrinsic pathway of coagulation and is expressed in units of time or percent activity.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C62656	
Rapid Plasma Reagin	A measurement of the antibodies produced by cellular damage caused by Treponema pallidum (syphilis) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74716	RPR
Reactive Lymphocytes	A measurement of the reactive lymphocytes (lymphocytes which have become large due to an antigen reaction) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74629	LYMRCT
Reactive Lymphocytes/Lymphocytes	A relative measurement (ratio or percentage) of the reactive lymphocytes (lymphocytes which have become large due to an antigen reaction) to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74654	LYMRCTLY

Reticulocytes	A measurement of the reticulocytes per unit of a biological specimen.	http://purl.bioontology.org/ontology/SNOMEDCT/45995003; http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C51947	RETI
Reticulocytes/Erythrocytes	A relative measurement (ratio or percentage) of reticulocytes to erythrocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64828	RETIRBC
Rheumatoid Factor	A measurement of the rheumatoid factor antibody in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74717	RF
Rouleaux Formation	A measurement of the stacking of red blood cells within a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74624	ROULEAUX

Schistocytes	A measurement of the schistocytes (fragmented red blood cells) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74706	SCHISTO
Sezary Cells	A measurement of the Sezary cells (atypical lymphocytes with cerebriform nuclei) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74625	SEZCE
Sezary Cells/Lymphocytes	A relative measurement (ratio or percentage) of the Sezary cells (atypical lymphocytes with cerebriform nuclei) to all lymphocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74655	SEZCELY
Sickle Cells	A measurement of the sickle cells (sickle shaped red blood cells) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74626	SCKLCE
Sickle Cells/Erythrocytes	A relative measurement (ratio or percentage) of the sickle cells (sickle shaped red blood cells) to all erythrocytes in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74656	SCKCERBC

Smudge Cells	A measurement of the smudge cells (the nuclear remnant of a ruptured white blood cell) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74627	SMDGCE
Sodium	A measurement of the sodium in a biological specimen.	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	SODIUM
Spherocytes	A measurement of the spherocytes (small, sphere-shaped red blood cells) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74707	SPHERO
Stomatocytes	A measurement of the stomatocytes (red blood cells with an oval or rectangular area of central pallor, producing the appearance of a cell mouth) in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74708	STOMCY
Thyroid Antibodies	A measurement of the thyroid antibodies in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81990	THYAB

Thyroid Antimicrosomal Antibodies	A measurement of the thyroid antimicrosomal antibodies in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81991	THYAMAB
Thyroid Antithyroglobulin Antibodies	A measurement of the thyroid antithyroglobulin antibodies in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81992	THYATAB
Thyrotropin	A measurement of the thyrotropin in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C64813	
Tissue Plasminogen Activator Antigen	A measurement of the tissue plasminogen activator antigen in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C81993	TPAAG
Triglycerides	A measurement of the triglycerides in a biological specimen..	CDISC SDTM 6.3.3 LABORATORY TEST RESULTS - LB	TRIG

Vacuolated Neutrophils	A measurement of the neutrophils containing small vacuoles in a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C74628	NEUTVAC

30. **lk_lab_test_panel_name**

Name	Description	Link
preferred_panel_name		
Blood Cell Count	The determination of the number of red blood cells, white blood cells, and platelets in a blood sample.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=14.11d&code=C28133; http://purl.bioontology.org/ontology/SNOMEDCT/252275004
Blood Cell Count with Differential	A hematologic procedure to determine the number of red blood cells, white blood cells, and platelets, including the white cell differential count and red cell morphology, in a blood sample.	http://ncit.nci.nih.gov/ncitbrowser/pages/concept_details.jsf?dictionary=NCI_Thesaurus&version=14.11d&code=C98494

Blood Flow Cytometry	Flow cytometry used to examine and quantitate the constituents of the blood.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=14.11d&code=C38062; http://purl.bioontology.org/ontology/SNOMEDCT/64444005
Chemistry Test	A laboratory test designed for the quantification of an organic or inorganic chemical within a biological specimen.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C49237&ns=NCI_Thesaurus
Comprehensive Metabolic Panel	Comprehensive Metabolic Panel	http://purl.bioontology.org/ontology/CPT/80053
Drug Test	A laboratory test of biological material such as blood, urine, hair, saliva or sweat, used to detect the presence of a drug or its metabolites with in the body.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=14.11d&code=C78139&ns=NCI_Thesaurus&key=n1647193989&b=1&n=null; http://purl.bioontology.org/ontology/SNOMEDCT/394642008
Fasting Lipid Profile	Fasting Lipid Profile	http://purl.bioontology.org/ontology/SNOMEDCT/252150008

Hormone measurement	The determination of the amount of hormone present in a sample.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=14.11d&code=C74742
Immunology Test	Laboratory test involving interaction of antigens with specific antibodies	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C16723&ns=NCI_Thesaurus; http://purl.bioontology.org/ontology/SNOMEDCT/252318005
Laboratory test related to hemostasis	Laboratory test related to hemostasis	http://purl.bioontology.org/ontology/SNOMEDCT/127791007
Protein or Enzyme Type Measurement	A term that refers to a chemistry test measuring a specific protein or enzyme in the peripheral blood or body fluid.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&version=14.11d&code=C64430; http://purl.bioontology.org/ontology/SNOMEDCT/122444009

Total Protein Measurement	A quantitative measurement of the amount of total protein present in a sample.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C64858&ns=NCI_Thesaurus; http://purl.bioontology.org/ontology/SNOMEDCT/74040009
Vitamin measurement	Vitamin level	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C74803&ns=NCI_Thesaurus; http://purl.bioontology.org/ontology/SNOMEDCT/122446006

31. **lk_locus_name**

Name	Description
HLA-A	
HLA-B	
HLA-C	
HLA-DPA1	
HLA-DPB1	
HLA-DQA1	
HLA-DQB1	
HLA-DRB1	
HLA-DRB3	
HLA-DRB4	
HLA-DRB5	

32. **lk_locus_typing_method**

Name	Description
Other	

PCR_Single_Stranded_Oligo_Probe_PCR_SSOP	
Sequence_Based_Typing_SBT	
Serology	
Single_Stranded_Priming_SSP	

33. **lk_pcr_expression_unit**

Name	Description	Link
preferred_expression_unit		
Cq	Threshold cycle (or Ct or Cq) is a count which is defined as the fractional PCR cycle number at which the reporter fluorescence is greater than the threshold in the context of the RT-qPCR assay.	http://purl.obolibrary.org/obo/STATO_0000190
Ct	Threshold cycle (or Ct or Cq) is a count which is defined as the fractional PCR cycle number at which the reporter fluorescence is greater than the threshold in the context of the RT-qPCR assay.	http://purl.obolibrary.org/obo/STATO_0000190
Delta Ct	Difference between the target gene and the reference gene.	http://www.ncbi.nlm.nih.gov/pubmed/?term=PMID%3A11846609
Delta Delta Ct	Difference between the Delta Ct target gene of the treated sample and the Delta Ct of the target gene of the untreated sample.	http://www.ncbi.nlm.nih.gov/pubmed/?term=PMID%3A11846609
Not_Specified	No value provided. Not stated explicitly or in detail.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C38046&ns=NCI_Thesaurus

34. **lk_personnel_role**

Name	Description	Link
Co-Principal Investigator	A responsible party role played by a person responsible for the overall conduct of a study.	http://purl.obolibrary.org/obo/OBI_0000103

Medical Monitor	Person employed by the sponsor or clinical research organization, who is responsible for determining that a clinical study is being conducted in accordance with the protocol. A monitor's duties may include, but are not limited to, helping to plan and initiate a trial, assessing the conduct of trial, assisting in data analysis, interpretation, and extrapolation. Monitor has medical authority for the checking data and documentation from the trial and for the evaluation of its safety aspects.	http://ncicb.nci.nih.gov/xml/owl/EVS/Thesaurus.owl#C51836
Other	A person having a Role that is some Other value not in CV Terms.	
Principal Investigator	A responsible party role played by a person responsible for the overall conduct of a study.	http://purl.obolibrary.org/obo/OBI_0000103
Site Manager	Someone (or something) that controls, directs, and organizes people, resources, or processes.	http://ncicb.nci.nih.gov/xml/owl/EVS/Thesaurus.owl#C70652
Sub-Investigator	A worker role authorized to make study-related decisions and carry out tasks related to the study; this role occurs during the study timeline.	http://purl.obolibrary.org/obo/OBI_0000224

35. **lk_plate_type**

Name	Description
Not_Specified	No plate type specified

36. **lk_pop_area_type**

Name	Description	Link
Australia	Australia and all of its islands (for example, Groote Eylandt, Tasmania, etc).	http://www.allelefrequencies.net/datasets.asp#tag_4

Europe	An area bounded by Franz Joseph Land, Svalbard, Iceland, the northern coast of the Mediterranean and Black Seas, and those areas of Russia west of the Caspian Sea and Kazakhstan. Includes Mediterranean islands that are part of European nations, with the exception of Cyprus and islands that are part of Turkey.	http://www.allelefrequencies.net/datasets.asp#tag_4
None of the Above	The population area is unknown.	http://www.allelefrequencies.net/datasets.asp#tag_4
North Africa	Nations on the African continent north of a line drawn between Nouadhibou in Mauritania and Djiubouti. Includes all of Western Sahara, Morocco, Algeria, Lyibia, Egypt, Eritrea, and Djibouti and northern areas of Mauritania, Mali, Niger, Chad, Sudan, and Ethiopia.	http://www.allelefrequencies.net/datasets.asp#tag_4
North America	Canada, the United States, Mexico, the Carribean, the Aleutian islands, and Greenland.	http://www.allelefrequencies.net/datasets.asp#tag_4
North-East Asia	Russia north and east of Kazakhstan (and associated islands), Kazakhstan, Uzbekistan, Kyrgyztan, Tajikistan, Mongolia, China east and north of Mongolia and east of the Bohai Sea, the Korean pennisula, and the islands of Japan.	http://www.allelefrequencies.net/datasets.asp#tag_4
Oceania	An area of the Pacific bounded by the Hawaiian Islands, Easter Island, the islands of New Zealand, the Sunda Islands, Madagascar, those areas of Borneo not part of Malaysia, and the Phillipines.	http://www.allelefrequencies.net/datasets.asp#tag_4
Other	This category is for populations derived from more than one of the other regions defined here.	http://www.allelefrequencies.net/datasets.asp#tag_4
South America	All of the South American and the Central American nations, and associated islands.	http://www.allelefrequencies.net/datasets.asp#tag_4

South-East Asia	China west and south of Mongolia, Taiwan, Vietnam, Laos, Cambodia, Thailand, Malaysia (including the Malaysian area of Borneo), Singapore, and Burma.	http://www.allelefrequencies.net/datasets.asp#tag_4
South-West Asia	Cyprus, Turkey (and associated islands), Georgia, Armenia, Azerbaijan, Syria, Lebanon, Israel, the Palestinian Territories, Jordan, the Saudi peninsula, Iraq, Kuwait, Iran, Turkmenistan, Afghanistan, Pakistan, India, Sri Lanka, and Bangladesh.	http://www.allelefrequencies.net/datasets.asp#tag_4
Sub-Saharan Africa	The area on the African continent south of the Sahara, defined by a line drawn between Nouadhibou in Mauritania and Djiubouti, and the islands associated with the nations of that area. Includes the southern areas of Mauritania, Mali, Niger, Chad, Sudan, and Ethiopia. Madagascar is not included in this region.	http://www.allelefrequencies.net/datasets.asp#tag_4

37. **lk_protocol_type**

Name	Description
Assay	Protocol used to assay or measure an experiment sample
Bio_Sample_Preparation	Biological Sample Preparation.
Bio_Sample_Treatment	Protocol used to prepare Biological Sample.
Biomaterial_Transformation	Protocol used to prepare or modify a biological sample
Clinical	Clinical
Data_Processing	Data Processing
Data_Transformation	Protocol used to analyze or reformat data
Experiment	Protocol used in the Experiment.
Experimental_Sample	Protocol used for Experimental Sample.
Not_Specified	Protcol Type is not specified or not received. If no Protocol Type value is received, then this is the system default value.
Other	Other
Study_Protocol	'Study_Protocol' Study design description.
Study_Summary	'Study_Summary' Study review after a study is closed.
Subject_Organism_Treatment	Subject Organism Treatment

38. **lk_public_repository**

Name	Description	Link
dbGAP	The database of Genotypes and Phenotypes (dbGaP) was developed to archive and distribute the results of studies that have investigated the interaction of genotype and phenotype.	http://www.ncbi.nlm.nih.gov/gap
GEO	GEO is a public functional genomics data repository supporting MIAME-compliant data submissions. Array- and sequence-based data are accepted. Tools are provided to help users query and download experiments and curated gene expression profiles.	http://www.ncbi.nlm.nih.gov/geo/
SRA	The Sequence Read Archive (SRA) stores raw sequencing data from the next generation of sequencing platforms including Roche 454 GS System, Illumina Genome Analyzer, Applied Biosystems SOLiD System, Helicos Heliscope, Complete Genomics, and Pacific Biosciences SMRT.	http://www.ncbi.nlm.nih.gov/sra

39. **lk_race**

Name	Description	Link
American Indian or Alaska Native	A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
Asian	A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
Black or African American	A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American."	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm

Native Hawaiian or Other Pacific Islander	A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
Not_Specified	Race is not specified or not received. If no Race value is received, then this is the system default value.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
Other	A person having a Race that is some Other value not in CV Terms.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
Unknown	A person having a race that is Unknown.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm
White	A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.	http://www.fda.gov/RegulatoryInformation/Guidances/ucm126340.htm

40. **lk_reagent_type**

Name	Description	Link
Affymetrix	Affymetrix reagent	http://www.affymetrix.com/support/technical/whitepapers.affx

Array	Replaces Affy and Illumina	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C18158&ns=NCI_Thesaurus
ELISA	ELISA reagent	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C16553&ns=NCI_Thesaurus
ELISPOT	ELISPOT reagent	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C102632&ns=NCI_Thesaurus

Flow_Cytometry	Flow Cytometry reagent	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C16585&ns=NCI_Thesaurus, http://bioconductor.org/packages/release/bioc/html/flowCore.html
HAI	Hemagluttination Inhibition reagent	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C120688&ns=NCI_Thesaurus
HLA_Typing_System	HLA Typing System reagent	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C71329&ns=NCI_Thesaurus

Illumina	Illumina reagent	http://illumina.com; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C45447&ns=NCI_Thesaurus
KIR_Typing_System	KIR Typing System reagent	http://immport.org/immport-open/public/home/documentation
Mass_Cytometry	Mass Cytometry reagent	http://immport.org/immport-open/public/home/documentation; https://en.wikipedia.org/wiki/Mass_cytometry
MBAA	MBAA reagent	http://immport.org/immport-open/public/home/documentation
Other	Other reagent	http://immport.org/immport-open/public/home/documentation

PCR	PCR reagent (includes all types of traditional PCR and quantitative PCR reagents)	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C28408&ns=NCI_Thesaurus
Sequencing	Sequencing reagent	http://immport.org/immport-open/public/home/documentation
Virus_Neutralization	Virus Neutralization reagent	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C94196&ns=NCI_Thesaurus

41. **lk_sample_type**

Name	Description	Link
Bone	Skeletal element that is composed of bone tissue.	http://purl.obolibrary.org/obo/UBERON_0001474

Carbohydrate	Any member of the class of organooxygen compounds that is a polyhydroxy-aldehyde or -ketone or a lactol resulting from their intramolecular condensation (monosaccharides); substances derived from these by reduction of the carbonyl group (alditols), by oxidation of one or more hydroxy groups to afford the corresponding aldehydes, ketones, or carboxylic acids, or by replacement of one or more hydroxy group(s) by a hydrogen atom; and polymeric products arising by intermolecular acetal formation between two or more such molecules (disaccharides, polysaccharides and oligosaccharides). Carbohydrates contain only carbon, hydrogen and oxygen atoms; prior to any oxidation or reduction, most have the empirical formula Cm(H2O)n. Compounds obtained from carbohydrates by substitution, etc., are known as carbohydrate derivatives and may contain other elements. Cyclitols are generally not regarded as carbohydrates.	http://purl.obolibrary.org/obo/CHEBI_16646
Cell	A material entity of anatomical origin (part of or deriving from an organism) that has as its parts a maximally connected cell compartment surrounded by a plasma membrane.	http://purl.obolibrary.org/obo/CL_0000000
Cell culture supernatant	Supernatant of a cell culture is a material entity which contains media, supplements, and secreted products of the cells and becomes the environment of cultivated cell.	http://purl.obolibrary.org/obo/OBI_1000023
Colon	Last portion of the large intestine before it becomes the rectum.	http://purl.obolibrary.org/obo/UBERON_0001155
DNA	High molecular weight, linear polymers, composed of nucleotides containing deoxyribose and linked by phosphodiester bonds; DNA contain the genetic information of organisms.	http://purl.obolibrary.org/obo/CHEBI_16991
Ileum	The portion of the small intestine that extends from the jejunum to the colon.	http://purl.obolibrary.org/obo/UBERON_0002116

Inguinal lymph node	The lymph nodes located in the groin area.	http://purl.obolibrary.org/obo/UBERON_0001542
Jejunum	The portion of the small intestine that extends from the duodenum to the ileum.	http://purl.obolibrary.org/obo/UBERON_0002115
Kidney	A paired organ of the urinary tract which has the production of urine as its primary function.	http://purl.obolibrary.org/obo/UBERON_0002113
Lipid	'Lipids' is a loosely defined term for substances of biological origin that are soluble in nonpolar solvents. They consist of saponifiable lipids, such as glycerides (fats and oils) and phospholipids, as well as nonsaponifiable lipids, principally steroids.	http://purl.obolibrary.org/obo/CHEBI_18059
Lung	Respiration organ that develops as an oupocketing of the esophagus.	http://purl.obolibrary.org/obo/UBERON_0002048
Lung lymph node	Bronchopulmonary segment lymph node.	http://purl.obolibrary.org/obo/FMA_68286
Lymph node	Any of the rounded masses of lymphoid tissue that are surrounded by a capsule of connective tissue, are distributed along the lymphatic vessels, and contain numerous lymphocytes which filter the flow of lymph.	http://purl.obolibrary.org/obo/UBERON_0000029
Mesenteric lymph node	The lymph nodes located in the mesentery, of which there are 3 classes: ileocolic, juxtaintestinal mesenteric, and central superior group.	http://purl.obolibrary.org/obo/UBERON_0002509
Not_Specified	Sample Type is not specified or not received. If no Sample Type value is received, then this is the system default value.	
Organ	Anatomical structure that performs a specific function or group of functions.	http://purl.obolibrary.org/obo/UBERON_0000062
Other	A sample type that is not provided in the preferred values list.	
PBMC	Peripheral Blood Mononuclear Cell- A leukocyte with a single non-segmented nucleus in the mature form.	http://purl.obolibrary.org/obo/CL_0000842

Plasma	Body substance in liquid state contained in the lumen of arterial and venous trees, blood capillary and the cardiac chambers; constitutes the liquid phase of blood.	http://purl.obolibrary.org/obo/UBERON_0001969
Protein	A biological macromolecule minimally consisting of one polypeptide chain synthesized at the ribosome.	http://purl.obolibrary.org/obo/CHEBI_36080
RNA	High molecular weight, linear polymers, composed of nucleotides containing ribose and linked by phosphodiester bonds; RNA is central to the synthesis of proteins.	http://purl.obolibrary.org/obo/CHEBI_33697
Saliva	A fluid produced in the oral cavity by salivary glands, typically used in predigestion, but also in other functions.	http://purl.obolibrary.org/obo/UBERON_0001836
Serum	Body substance derived from plasma by the elimination of fibrinogen.	http://purl.obolibrary.org/obo/UBERON_0001977
Skin of body	Nonparenchymatous organ that consists of the dermis and epidermis. Subdivisions of the skin surround various body parts; as a whole, the skin constitutes the external layer of the body.	http://purl.obolibrary.org/obo/UBERON_0002097
Spleen	The organ that functions to filter blood and to store red corpuscles and platelets.	http://purl.obolibrary.org/obo/UBERON_0002106
Synovial fluid	Transudate contained in the synovial cavity of joints, and in the cavity of tendon sheaths and bursae.	http://purl.obolibrary.org/obo/UBERON_0001090
Synovial tissue	Thin, loose vascular connective tissue that makes up the membranes surrounding joints and the sheaths protecting tendons (particularly flexor tendons in the hands and feet) where they pass over bony prominences.	http://purl.obolibrary.org/obo/UBERON_0007616
Thymus	Anatomical structure of largely lymphoid tissue that functions in cell-mediated immunity by being the site where T cells develop.	http://purl.obolibrary.org/obo/UBERON_0002370
Tissue	Multicellular anatomical structure that consists of many cells of one or a few types, arranged in an extracellular matrix such that their long-range organisation is at least partly a repetition of their short-range organisation.	http://purl.obolibrary.org/obo/UBERON_0000479

Tonsil	Either of the two small almond-shaped masses of lymph tissue found on either side of the oropharynx.	http://purl.obolibrary.org/obo/UBERON_0002372
Urine	Excretion that is the output of a kidney.	http://purl.obolibrary.org/obo/UBERON_0001088
Whole blood	Circulating body substance which consists of blood plasma and hemoglobin-carrying red blood cells. Excludes blood analogues (see UBERON:0000179 haemolymphatic fluid).	http://purl.obolibrary.org/obo/UBERON_0000178

42. **lk_source_type**

Name	Description
CONTROL_SAMPLE	Sample used to perform quality control of assay results.
EXPERIMENTAL_SAMPLE	Biological sample that is assayed or measured.
STANDARD_CURVE	An analysis product from analyzing the assay result from known quantities and used to interpret the assay result from a sample.

43. **lk_species_type**

Name	Description	Link
Anas platyrhynchos	Mallard duck	http://www.ncbi.nlm.nih.gov/taxonomy/?term=8839[uid]
Drosophila melanogaster	Fruit Fly	http://www.ncbi.nlm.nih.gov/taxonomy/?term=7227[uid]
Gallus gallus	Chicken	http://www.ncbi.nlm.nih.gov/taxonomy/?term=9031[uid]
Homo sapiens	Human	http://www.ncbi.nlm.nih.gov/taxonomy/?term=9606[uid]

Macaca fascicularis	Macaca fascicularis	http://www.ncbi.nlm.nih.gov/taxonomy/?term=9541[uid]
Macaca mulatta	Rhesus macaque	http://www.ncbi.nlm.nih.gov/taxonomy/?term=9544[uid]
Mus musculus	Mouse	http://www.ncbi.nlm.nih.gov/taxonomy/?term=10090[uid]
Mus musculus castaneus	Southeastern Asian house mouse	http://www.ncbi.nlm.nih.gov/taxonomy/?term=10091[uid]
Mus spretus	Western wild mouse	http://www.ncbi.nlm.nih.gov/taxonomy/?term=10096[uid]
Mustela putorius furo	domestic ferret	http://www.ncbi.nlm.nih.gov/taxonomy/?term=9669[uid]
Rattus norvegicus	Rat	http://www.ncbi.nlm.nih.gov/taxonomy/?term=10116[uid]
Rattus rattus	Rat - Brown	http://www.ncbi.nlm.nih.gov/taxonomy/?term=10117[uid]
Sus scrofa domesticus	domestic pig	http://www.ncbi.nlm.nih.gov/taxonomy/?term=9825[uid]

44. **lk_study_file_type**

Name	Description	Link

Adverse Events	Study file type is Adverse Events.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C41331&ns=NCI_Thesaurus
Assessment Results	Study file type is Assessment Results.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C25217&ns=NCI_Thesaurus
Case Report Form	Study file type is Case Report Form.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C40988&ns=NCI_Thesaurus

Concomitant Medications	Study file type is Concomitant Medications.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C49568&ns=NCI_Thesaurus
Data Dictionary	Study file type is Data Dictionary.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C49461&ns=NCI_Thesaurus
Demographics	Study file type is Demographics.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C16495&ns=NCI_Thesaurus

Interventions	Study file type is Interventions.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C25218&ns=NCI_Thesaurus
Lab Test Results	Study file type is Lab Test Results (e.g. CBC, chemistry, cytokine).	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C36292&ns=NCI_Thesaurus
Study Medication	Study file type is Study Medication.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C459&ns=NCI_Thesaurus
Study_Data	Data associated with a study. For studies at a data curation level 0, this is the default setting for data linked to a study.	http://immport.org/immport-open/public/home/documentation

Study_Summary_Description	Study Summary Description document.	http://immport.org/immport-open/public/home/documentation
Substance Use	Study file type is Substance Use.	http://immport.org/immport-open/public/home/documentation; https://nciterms.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C49615&ns=NCI_Thesaurus

45. **lk_study_type**

Name	Description	Link
Intervention Longitudinal	An Intervention Longitudinal study involves repeated observations of the same variables over long periods of time during an intervention study. It is to Interventional study as Longitudinal is to Observational study.	http://bioportal.bioontology.org/ontologies/NCIT/?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C98388&jump_to_nav=true
Interventional	In an interventional study, the investigators give the research subjects a particular medicine or other intervention. Usually, they compare the treated subjects to subjects who receive no treatment or standard treatment. Then the researchers measure how the subjects' health changes.	http://bioportal.bioontology.org/ontologies/NCIT/?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C98388&jump_to_nav=true

Longitudinal	A longitudinal study is a correlational research study that involves repeated observations of the same variables over long periods of time - often many decades. It is a type of observational study.	http://bioportal.bioontology.org/ontologies/NCIT/?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C15273&jump_to_nav=true
Observational	An observational study draws inferences about the possible effect of a treatment on subjects, where the assignment of subjects into a treated group versus a control group is outside the control of the investigator.	http://bioportal.bioontology.org/ontologies/NCIT?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C16084

46. **lk_t0_event**

Name	Description	Link
Not_Specified	Time Zero Event (TZ0) is not specified or not received. If no Time Zero Event value is received, then this is the system default value.	http://bioportal.bioontology.org/ontologies/PATO?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000165
Other	Time Zero Event (TZ0) is the some Other time value not in CV Terms.	http://bioportal.bioontology.org/ontologies/PATO?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000165

Time of enrollment	Time Zero Event (TZ0) is the Time of enrollment.	http://bioportal.bioontology.org/ontologies/PATO?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000165
Time of infection	Time Zero Event (TZ0) is the Time of infection.	http://bioportal.bioontology.org/ontologies/PATO?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000165
Time of initial treatment	Time Zero Event (TZ0) is the Time of initial treatment.	http://bioportal.bioontology.org/ontologies/PATO?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000165
Time of initial vaccine administration	Time Zero Event (TZ0) is the Time of initial vaccine administration.	http://bioportal.bioontology.org/ontologies/PATO?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000165
Time of transplantation	Time Zero Event (TZ0) is the Time of Transplantation.	http://bioportal.bioontology.org/ontologies/PATO?p=classes&conceptid=http%3A%2F%2Fpurl.obolibrary.org%2Fobo%2FPATO_0000165

47. **lk_temperature_unit**

Name	Description	Link
C	Celsius	http://purl.obolibrary.org/obo/UO_0000027
F	Fahrenheit	http://purl.obolibrary.org/obo/UO_0000195
K	Kelvin	http://purl.obolibrary.org/obo/UO_0000012
Not_Specified	No value provided. Not stated explicitly or in detail.	http://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&code=C38046&ns=NCI_Thesaurus

48. **lk_time_unit**

Name	Description	Link
d.p.c.	Unit of Days Post Coitum (d.p.c.).	https://en.wikipedia.org/wiki/Days_post_coitum
Days	Unit of Days.	http://bioportal.bioontology.org/ontologies/NCIT/?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C25301

Hours	Unit of Hours.	http://bioportal.bioontology.org/ontologies/NCIT?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C25529
Minutes	Unit of Minutes.	http://bioportal.bioontology.org/ontologies/NCIT?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C48154
Months	Unit of Months.	http://bioportal.bioontology.org/ontologies/NCIT?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C29846
Not_Specified	Unit is not specified or not received. If no Unit value is received, then this is the system default value.	

Seconds	Unit of Seconds.	http://bioportal.bioontology.org/ontologies/NCIT?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C25666
Weeks	Unit of Weeks.	http://bioportal.bioontology.org/ontologies/NCIT/?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C29844
Years	Unit of Years.	http://bioportal.bioontology.org/ontologies/NCIT/?p=classes&conceptid=http%3A%2F%2Fncicb.nci.nih.gov%2Fxml%2Fowl%2FEVS%2FThesaurus.owl%23C29848

49. **lk_virus_strain**

Name	Description	Link
virus_strain_preferred		

A/Brisbane/10/2007	The virus strain name is: 'A/Brisbane/10/2007'. The virus name : 'H3N2', and season_list is: '2008-2009,2009-2010'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
A/Brisbane/59/2007	The virus strain name is: 'A/Brisbane/59/2007'. The virus name : 'H1N1', and season_list is: '2008-2009,2009-2010'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
A/California/7/2009	The virus strain name is: 'A/California/7/2009'. The virus name : 'H1N1', and season_list is: '2010-2011,2011-2012,2012-2013'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
A/Perth/16/2009	The virus strain name is: 'A/Perth/16/2009'. The virus name : 'H3N2', and season_list is: '2010-2011,2011-2012'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
A/Solomon Islands/3/2006	The virus strain name is: 'A/Solomon Islands/3/2006'. The virus name : 'H1N1', and season_list is: '2007-2008'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm

A/Victoria/361/2011	The virus strain name is: 'A/Victoria/361/2011'. The virus name : 'H3N2', and season_list is: '2012-2013'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
A/Wisconsin/67/2005	The virus strain name is: 'A/Wisconsin/67/2005'. The virus name : 'H3N2', and season_list is: '2007-2008'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
B/Brisbane/60/2008	The virus strain name is: 'B/Brisbane/60/2008'. The virus name : 'B', and season_list is: '2009-2010'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
B/Florida/4/2006	The virus strain name is: 'B/Florida/4/2006'. The virus name : 'B', and season_list is: '2008-2009'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
B/Malaysia/2506/2004	The virus strain name is: 'B/Malaysia/2506/2004'. The virus name : 'B', and season_list is: '2007-2008'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm

B/Massachusetts/2/2012	The virus strain name is: 'B/Massachusetts/2/2012'. The virus name : 'B', and season_list is: '2012-2013'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm
B/Wisconsin/1/2010	The virus strain name is: 'B/Wisconsin/1/2010'. The virus name : 'B', and season_list is: '2012-2013'.	http://www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Post-MarketActivities/LotReleases/ucm062928.htm

50. **lk_who_report**

Name	Description
1998_Report	
2000_Report	
2002_Report	
2004_Report	
April_2005_Update	
April_2006_Update	
April_2007_Update	
April_2008_Update	
April_2009_Update	
April_2010_Update	
April_2011_Update	
April_2012_Update	
April_2013_Update	
April_2014_Update	
August_2005_Update	
August_2006_Update	
August_2007_Update	
August_2008_Update	
August_2009_Update	
August_2010_Update	
August_2011_Update	
August_2012_Update	

August_2013_Update	
August_2014_Update	
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Unknown	

51. **lk_yes_no**

Name	Description
No	No
Yes	Yes