**GSCID/BRC Project and Sample Application Standard**

**Core Sample**

**v1.3**

**Finalized by the GSCID/BRC Metadata Working Group**

How to interpret the document:

**BOLD**: Field Name

*ITALICS*: Attributes of the field

1. **Specimen Source ID**

*Core Sample Field ID*: CS1

*Field Name*: Specimen Source ID

*Description*: Unique identifier of the individual organism from which the initial specimen was obtained. All specimens coming from the same patient or other host must have the same Specimen Source ID. Multiple specimens from the same patient must be differentiated using the "Specimen ID" fields. Samples derived from the same initial specimen (e.g. different aliquots) can be distinguished using different Sample IDs.

*Data Category*: Host Characterization

*Allowed Values*: Free text

*Syntax*: Free text

*Example Values*: AC160

*Data Source*: Sample Provider

*Comments*: It is essential that each specimen source carries a unique identifier, especially when multiple specimens may be isolated from the same specimen source, e.g. Ghedin E, et al. J Infect Dis. 2011 Jan 15;203(2):168-74. PubMed PMID: 21288815;

PubMed Central PMCID: PMC3071067. "Host" is not the preferred term since some specimens may lack any detectable pathogen.

*OBO Foundry Synonym*: individual organism identifier

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001141

*OBO Foundry Definition*: a symbol used to distinguish one individual organism from another.

*BioSample Definition*: a unique identifier by which each subject can be referred to, de-identified

*Other Synonyms*: MIxS: host\_subject\_id; BioSample: host-subject-id; Host ID; Primary Sample Source ID

1. **Specimen Category**

*Core Sample Field ID*: CS2

*Field Name*: Specimen Category

*Description*: Indicate the category of sample.

Allowed values are "clinical or host-associated pathogen" or "environmental, food or other pathogen".

*Data Category*: Pathogen Detection

*Allowed Values*: "Clinical/host-associated pathogen" or "environmental/food/other pathogen”

*Syntax*: Pick list is recommended for values column.

*Example Values*: clinical or host-associated pathogen

*Data Source*: Sample Provider

*Comments*: BioSample: value provided in this field drives validation of other fields. Allowed values for pathogen submissions are ʺPathogen.clʺ (for clinical or host-associated pathogen) or ʺPathogen.envʺ (for environmental, food or other pathogen).

*OBO Foundry Synonym*: specimen

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0100051

*OBO Foundry Definition*: A material entity that has the specimen role.

*BioSample Definition*: Specify the attribute package

*Other Synonyms*: BioSample: sample category\*; BioSample Category Type

1. **Specimen Source Species**

*Core Sample Field ID*: CS3

*Field Name*: Specimen Source Species

*Description*: Taxonomic species of the individual organism (host) from which the initial specimen was obtained, in as much detail as is known. Ideally this would be described using the traditional Genus species combination nomenclature.

*Data Category*: Host Characterization

*Allowed Values*: NCBI taxonomy, except Avibase for avian (http://www.bsc-eoc.org/avibase/avibase.jsp). ‘Experimental’, ‘Unknown’ or ‘Not applicable’ can be used as acceptable values.

*Syntax*: Free text but only from controlled vocabulary as in allowed values column.

*Example Values*: Anas platyrhynchos; Homo Sapiens; Coquillettidia perturbans

*Data Source*: Sample Provider

*Comments*: Genus and species should be combined into a single field with the use of the standard Latin nomenclature. BioSample: Required for 'Pathogen.cl' attribute package. If taxonomic name is unknown, enter Species Source Common Name or 'Not collected', 'Not applicable' or 'Missing'

*OBO Foundry Synonym*: organism

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0100026

*OBO Foundry Definition*: A material entity that is an individual living system, such as animal, plant, bacteria or virus, that is capable of replicating or reproducing, growth and maintenance in the right environment. An organism may be unicellular or made up, like humans, of many billions of cells divided into specialized tissues and organs.

*BioSample Definition*: Taxid or organism name of host

*Other Synonyms*: BioSample: specific\_host\*; MIxS: host\_taxid; Host Species; Primary Sample Source Species

1. **Species Source Common Name**

*Core Sample Field ID*: CS4

*Field Name*: Species Source Common Name

*Description*: Common name of the type of individual organism (host) from which the initial specimen was obtained.

*Data Category*: Host Characterization

*Allowed Values*: Free text of Source species (common name), 'Not collected', 'Not applicable', 'Missing' or ‘unknown’ can be used as acceptable values.

*Syntax*: Free text. Source species (common name)

*Example Values*: mallard; human; mosquito

*Data Source*: Sample Provider

*Comments*: BioSample: ʺRequired if Specimen Source Species is empty.ʺ

*OBO Foundry Synonym*: organism (alternative name)

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0100026

*OBO Foundry Definition*: A material entity that is an individual living system, such as animal, plant, bacteria or virus, that is capable of replicating or reproducing, growth and maintenance in the right environment. An organism may be unicellular or made up, like humans, of many billions of cells divided into specialized tissues and organs.

*BioSample Definition*: Taxid or organism name of host

*Other Synonyms*: BioSample: host-common-name; MIxS: host\_common\_name; Host Common Name; Primary Sample Source Common Name

1. **Specimen Source Gender**

*Core Sample Field ID*: CS5

*Field Name*: Specimen Source Gender

*Description*: Biological sex of the individual organism (host) from which the initial specimen was obtained. An organismal quality relating to sexual reproduction that differentiates the types of individuals involved in the reproductive process.

*Data Category*: Host Characterization

*Allowed Values*: –‘male’, ‘female’, ‘Unknown’ or ‘Not applicable’ can be used as acceptable values.

*Syntax*: Free text but only from controlled vocabulary. Pick list is recommend.

*Example Values*: male

*Data Source*: Sample Provider

*Comments*: Required field.

*OBO Foundry Synonym*: biological sex

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/PATO\_0000047

*OBO Foundry Definition*: An organismal quality inhering in a bearer by virtue of the bearer's ability to undergo sexual reproduction in order to differentiate the individuals or types involved.

*BioSample Definition*: Gender or physical sex of the host

*Other Synonyms*: BioSample: host-sex; MIxS:sex; Specimen Source Biological Sex; Host Gender/Sex; Primary Sample Source Gender/Sex

1. **Specimen Source Age - Value**

*Core Sample Field ID*: CS6

*Field Name*: Specimen Source Age - Value

*Description*: Age value of the individual organism (host) from which the initial specimen was obtained. Span of time value between birth or hatching and time of specimen collection.

*Data Category*: Host Characterization

*Allowed Values*: floating number. ‘Unknown’ or ‘Not applicable’ can be used as acceptable values.

*Syntax*: floating number

*Example Values*: 18

*Data Source*: Sample Provider

*Comments*: Required field. BioSample: Combined w/ Specimen Source Age – Unit.

*OBO Foundry Synonym*: age measurement datum

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001167

*OBO Foundry Definition*: A time measurement datum that is the result of measurement of age of an organism

*BioSample Definition*: Age of host at the time of sampling

*Other Synonyms*: BioSample: host-age; MIxS: age; Host Age; Primary Sample Source Age

1. **Specimen Source Age - Unit**

*Core Sample Field ID*: CS7

*Field Name*: Specimen Source Age - Unit

*Description*: Age unit of the individual organism (host) from which the initial specimen was obtained. Span of time unit between birth or hatching and time of specimen collection.

*Data Category*: Host Characterization

*Allowed Values*: days, weeks, months, years

*Syntax*: Pick list or check box for controlled vocabulary

*Example Values*: years

*Data Source*: Sample Provider

*Comments*: BioSample: Combined w/ Specimen Source Age - Value

*OBO Foundry Synonym*: time unit

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/UO\_0000003

*OBO Foundry Definition*: A unit which is a standard measure of the dimension in which events occur in sequence.

*BioSample Definition*: Age of host at the time of sampling

*Other Synonyms*: BioSample: host-age;

1. **Specimen Source Health Status**

*Core Sample Field ID*: CS8

*Field Name*: Specimen Source Health Status

*Description*: A Description of whether the specimen source organism appeared healthy, sick or deceased at the time of sampling. If sick or deceased, additional details should be provided in project-specific fields.

*Data Category*: Host Characterization

*Allowed Values*: healthy, sick or deceased. ‘Unknown’ or ‘Not applicable’ can be used as acceptable values.

*Syntax*: Pick list of allowed values is recommended.

*Example Values*: healthy

*Data Source*: Sample Provider

*Comments*: OBI mapping comment: should be PATO:quality, 'manifestation of a disease' (http://purl.obolibrary.org/obo/OGMS\_0000022) and 'viability' (http://purl.obolibrary.org/obo/PATO\_0000169

*OBO Foundry Synonym*: organismal quality

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/PATO\_0001995

*OBO Foundry Definition*: A quality that inheres in an entire organism or part of an organism.

*BioSample Definition*: Information regarding health state of the individual sampled at the time of sampling

*Other Synonyms*: BioSample: host-health-state; MIxS: health\_disease stat

1. **Specimen Source Disease**

*Core Sample Field ID*: CS9

*Field Name*: Specimen Source Disease

*Description*: Name of relevant disease thought to be related to the suspected organism in the specimen.

*Data Category*: Host Characterization

*Allowed Values*: Controlled vocabulary, http://bioportal.bioontology.org/ontologies/1009 or http://www.ncbi.nlm.nih.gov/mesh. ‘Unknown’, ‘Not applicable’, ‘Missing’ or ‘Withheld’ can be used as acceptable values.

*Syntax*: Free text but only from controlled vocabulary

*Example Values*: Salmonella gastroenteritis

*Data Source*: Sample Provider

*Comments*: BioSample: Required for 'Pathogen.cl' attribute package. If unknown, enter 'Not collected', 'Not applicable' or 'Missing’

*OBO Foundry Synonym*: disease

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OGMS\_0000031

*OBO Foundry Definition*: A disposition (i) to undergo pathological processes that (ii) exists in an organism because of one or more disorders in that organism.

*BioSample Definition*: Name of relevant disease, e.g. Salmonella gastroenteritis. Controlled vocabulary, http://bioportal.bioontology.org/ontologies/1009 or http://www.ncbi.nlm.nih.gov/mesh

*Other Synonyms*: BioSample: host-disease\*; MIxS: disease status

1. **Specimen Collection Date**

*Core Sample Field ID*: CS10

*Field Name*: Specimen Collection Date

*Description*: Date of the specimen collection event from an individual organism host (N.B. this information may be censored if derived from a human patients.), or the date of the sample collection event from an environmental material. The collection date can either be a single point in time or an interval of time.

*Data Category*: Specimen Isolation

*Allowed Values*: A valid date. ‘Unknown’, ‘Not applicable’, ‘Not available’ or ‘Available upon request’ can be used as acceptable values.

*Syntax*: dd-first 3 letters of month-yyyy

*Example Values*: 14-Sep-2011

*Data Source*: Sample Provider

*Comments*: Required field Human subject participant confidentiality will need to be addressed. BioSample: if unknown, enter 'Not collected'. 'Not applicable' or 'Missing'

*OBO Foundry Synonym*: specimen creation time measurement datum (alternative term: collection date)

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001619

*OBO Foundry Definition*: A scalar measurement datum that is the result of measuring a temporal interval

*BioSample Definition*: Date of sampling, in "DD-Mmm-YYYY", "Mmm-YYYY" or "YYYY" format (single instance, eg., 05-Oct-1990, Oct-1990 or 1990) or ISO 8601 standard "YYYY-mm-dd" or "YYYY-mm-ddThh:mm:ss" (eg. 1990-11-05 or 1990-11-05T14:41:36)

*Other Synonyms*: BioSample: collection\_date\*; MIxS: collection date; Primary Sample Collection Date

1. **Specimen Collection Location - Latitude**

*Core Sample Field ID*: CS11

*Field Name*: Specimen Collection Location - Latitude

*Description*: Latitude coordinate for the site of the specimen collection event.

*Data Category*: Specimen Isolation

*Allowed Values*: ISO 6709. ‘Unknown’, ‘Not applicable’, ‘Not collected’, ‘Available on request’, ‘Missing’ or ‘Censored’ can be used as acceptable values. Values should be stored in signed decimal degrees format based on the WGS84 geodetic reference system. Multiple value pairs (delimited by ";") may be entered if the site is not a point.

*Syntax*: ISO 6709 Syntax is acceptable,

*Example Values*: 15.871732; 37.2556 N; unknown; censored

*Data Source*: Sample Provider

*Comments*: Required field. Human subject participant confidentiality may or may not be an issue since the location of specimen collection (hospital/clinic) will not be the human subject participant's address. BioSample: If unknown, enter 'Not collected'. 'Not applicable' or 'Missing'. (Combined w/Longitude).

*OBO Foundry Synonym*: latitude coordinate measurement datum

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001620

*OBO Foundry Definition*: A measurement datum that is the measure of the latitude coordinate of a site.

*BioSample Definition*: Report values in decimal degrees and in WGS84 system

*Other Synonyms*: BioSample: lat\_lon\*; MIxS: geographic location (latitude and longitude); Primary Sample Collection Location – Latitude

1. **Specimen Collection Location - Longitude**

*Core Sample Field ID*: CS12

*Field Name*: Specimen Collection Location - Longitude

*Description*: Longitude coordinate for the site of the specimen collection event.

*Data Category*: Specimen Isolation

*Allowed Values*: ISO 6709. ‘Unknown’, ‘Not applicable’, ‘Not collected’, ‘Available on request’, ‘Missing’ or ‘Censored’ can be used as acceptable values. Values should be stored in signed decimal degrees format based on the WGS84 geodetic reference system. Multiple value pairs (delimited by ";") may be entered if the site is not a point.

*Syntax*: ISO 6709 Syntax is acceptable.

*Example Values*: 100.279899; 80.4290 W; Unknown; Censored

*Data Source*: Sample Provider

*Comments*: Required field. Human subject participant confidentiality may or may not be an issue since the location of specimen collection (hospital/clinic) will not be the human subject participant's address. BioSample: If unknown, enter ‘Unknown’, 'Not collected', 'Not applicable' or 'Missing' (Combined w/ Specimen Collection Location - Latitude)"

*OBO Foundry Synonym*: longitude coordinate measurement datum

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001621

*OBO Foundry Definition*: A measurement datum that is the measure of the longitude coordinate of a site.

*BioSample Definition*: Report values in decimal degrees and in WGS84 system

*Other Synonyms*: BioSample: lat\_lon\*; MIxS: geographic location (latitude and longitude); Primary Sample Collection Location – Longitude

1. **Specimen Collection Location - Location**

*Core Sample Field ID*: CS13

*Field Name*: Specimen Collection Location - Location

*Description*: The name (or Gazetteer term) of the most precise geographical location available for the site of the specimen collection event.

*Data Category*: Specimen Isolation

*Allowed Values*: GAZ Ontology. ‘Not collected’, ‘Unknown’ or ‘Not applicable’ can be used as acceptable values.

*Syntax*: Free text but only from controlled vocabulary

*Example Values*: GAZ:00003953 (Haiti)

*Data Source*: Sample Provider

*Comments*: Recommend the use of GAZ because it allows inference of higher level location information. BioSample: if unknown, enter 'Not collected', 'Not applicable' or 'Missing' (Combined w/ Specimen Collection Location - Country)

*OBO Foundry Synonym*: geographical location

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/GAZ\_00000448

*OBO Foundry Definition*: A reference to a place on the Earth, by its name or by its geographical location.

*BioSample Definition*: Geographical origin of the sample

*Other Synonyms*: BioSample: geo\_loc\_name\*. Primary Sample Collection Geographical Location

1. **Specimen Collection Location - Country**

*Core Sample Field ID*: CS14

*Field Name*: Specimen Collection Location - Country

*Description*: Country location of the site of the specimen collection event.

*Data Category*: Specimen Isolation

*Allowed Values*: ISO 3166 standard abbreviation (2-alpha), [www.iso.org/iso/iso-3166-1\_decoding\_table](http://www.iso.org/iso/iso-3166-1_decoding_table) or NCBI country list. 'Not collected', 'Not applicable' or 'Missing' can be used as acceptable values.

*Syntax*: Currently is free text, but ISO3166 standard abbreviations would be acceptable

*Example Values*: US

*Data Source*: Sample Provider

*Comments*: see comments to Specimen Collection Location - Longitude. BioSample: If unknown, enter 'Not collected’, 'Not applicable' or 'Missing' (Combined w/ Specimen Collection Location - Location)"

*OBO Foundry Synonym*: country name

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001627

*OBO Foundry Definition*: A textual entity that denotes a geographic location that is a site or part of a site that is identified as a country in the political geography.

*BioSample Definition*: Geographical origin of the sample

*Other Synonyms*: BioSample: geo\_loc\_name\*; MIxS:geographic location (country and/or sea,region); Primary Sample Collection Location – Country

1. **Specimen ID**

*Core Sample Field ID*: CS15

*Field Name*: Specimen ID

*Description*: Unique identifier of the initial specimen collected from the specimen source.

*Data Category*: Specimen Isolation

*Allowed Values*: Free text

*Syntax*:

*Example Values*: CRIP1123455

*Data Source*: Sample Provider

*Comments*: BioSample: Must be unique within a submitter name space. It is essential that each specimen carries a unique identifier, especially when multiple pathogen isolates may be identified in the same specimen. Each independent specimen should be given a different Specimen ID even if isolated from the same source organism.

*OBO Foundry Synonym*: specimen identifier

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001616

*OBO Foundry Definition*: A CRID symbol denotes a specimen and used to distinguish one specimen from another in an investigation.

*BioSample Definition*: Submitter-supplied Sample Name or identifier.

*Other Synonyms*: BioSample: sample name\*

1. **Specimen Type**

*Core Sample Field ID*: CS16

*Field Name*: Specimen Type

*Description*: Tissue or bodily fluid type of initial specimen obtained. A material sample isolated from a host organism for the purpose of target organism isolation or the experimental measurement of some other property of that material entity.

*Data Category*: Specimen Isolation

*Allowed Values*: blood, X tissue, CSF, nasal swab, BAL, feather, hair, fur, nasal secretion, Whole Blood, Serum, Plasma, PBMC, Cell Supernatant or Tissue. Term of organism appropriate anatomy ontology, e.g. Foundational Model of Anatomy Ontology or Mosquito Gross Anatomy Ontology.

*Syntax*: Pick list or search box for allowed values.

*Example Values*: lung tissue; fma:Skin; fma:Lung; TGMA:0000136 (adult thorax of mosquito); whole worms

*Data Source*: Sample Provider

*Comments*:

*OBO Foundry Synonym*: tissue specimen

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001479

*OBO Foundry Definition*: A specimen that derives from an anatomical part or substance arising from an organism. Examples of tissue specimen include tissue, organ, physiological system, blood, or body location (arm).

*BioSample Definition*: Type of tissue the initial sample was taken from. Controlled vocabulary, http://bioportal.bioontology.org/ontologies/1005)

*Other Synonyms*: BioSample: host-tissue-sampled; MIxS: body habitat, body site, body product; Isolation Site on Host; Primary Sample Type

1. **Suspected Organism(s) in Specimen - Species**

*Core Sample Field ID*: CS17

*Field Name*: Suspected Organism(s) in Specimen - Species

*Description*: Anticipated species of the organism(s) found in the initial specimen based on submitter assay(s)/determination(s).

*Data Category*: Pathogen Detection

*Allowed Values*: NCBI taxonomy

*Syntax*: Free text but only from controlled vocabulary

*Example Values*: Influenza A virus

*Data Source*: Sample Provider

*Comments*: OBI mapping comment: should consider rank of NCBITaxon (rank: species); BioSample: Will be validated against NCBI taxonomy database. Separate multiple entries with a semicolon (;).

*OBO Foundry Synonym*: infectious agent

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0000925

*OBO Foundry Definition*: Is a material entity bearing the disposition to infect an organism.

*BioSample Definition*: The most descriptive organism name for this sample (to the species, if relevant; to the strain for bacteria)

*Other Synonyms*: BioSample: organism\*; Suspected Pathogen in Specimen

1. **Suspected Organism(s) in Specimen - Subclassification**

*Core Sample Field ID*: CS18

*Field Name*: Suspected Organism(s) in Specimen - Subclassification

*Description*: Anticipated subclassification of the organism(s) (e.g. genotype, serotype) found in the initial specimen based on submitter assay(s)/determination(s)

*Data Category*: Pathogen Detection

*Allowed Values*: Free text

*Syntax*:

*Example Values*: H5N1

*Data Source*: Sample Provider

*Comments*: OBI mapping comment: should consider rank of NCBITaxon (rank: subclassification of species). BioSample: strain and/or isolate must be provided.

*OBO Foundry Synonym*: infectious agent

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0000925

*OBO Foundry Definition*: is a material entity bearing the disposition to infect an organism

*BioSample Definition*: N/A

*Other Synonyms*: BioSample: strain; MIxS: subspecific genetic lineage

1. **Human Pathogenicity of Suspected Organism(s) in Specimen**

*Core Sample Field ID*: CS19

*Field Name*: Human Pathogenicity of Suspected Organism(s) in Specimen

*Description*: Anticipated pathogenicity of the organism(s) found in the initial specimen based on submitter assay(s)/determination(s) in the human host

*Data Category*: Pathogen Characteristic

*Allowed Values*: Free text

*Syntax*:

*Example Values*: pathogenic in human; not pathogenic in human

*Data Source*: Sample Provider

*Comments*: OBI mapping comment: may be subclass of IDO:'pathogenic disposition' or 'pathogen role', human pathogenic disposition (role), or non-human pathogenic disposition (role); BioSample: will be included as custom attribute.

*OBO Foundry Synonym*: human pathogenicity disposition

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/IDO\_0000666

*OBO Foundry Definition*: A disposition to initiate processes that result in a disorder in a human organism.

*BioSample Definition*: To what is the entity pathogenic

*Other Synonyms*: BioSample: pathogenicity; MIxS:phenotype

1. **Environmental Material**

*Core Sample Field ID*: CS20

*Field Name*: Environmental Material

*Description*: Describes the matter that was displaced by the sample, prior to the sampling event. Examples include: air, soil, or water.

*Data Category*: Specimen Isolation

*Allowed Values*: EnvO (v1.53) terms listed under environmental matter can be found from the link: <http://bioportal.bioontology.org/visualize/44405/?conceptid=ENVO%3A00010483>. ‘Not applicable’, ‘Not collected’ or ‘Missing’ can be used as acceptable values.

*Syntax*: Free text but only from controlled vocabulary

*Example Values*: pond water; feces; not applicable

*Data Source*: Sample Provider

*Comments*: This field would be used only when the specimen source is not an organism. Required field.

*OBO Foundry Synonym*: environmental material

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/ENVO\_00010483

*OBO Foundry Definition*: Material in or on which organisms may live.

*BioSample Definition*: Describes the physical, environmental and/or local geographical source of the biological sample from which the sample was derived.

*Other Synonyms*: BioSample: isolation-source\*; MIxS: environment (material)

1. **Organism Detection Method**

*Core Sample Field ID*: CS21

*Field Name*: Organism Detection Method

*Description*: Experimental technique used to identify the organism species in the specimen sample.

*Data Category*: Pathogen Detection

*Allowed Values*: OBI, <http://bioportal.bioontology.org/ontologies/40832>. ‘Unknown’ or ‘Not applicable’ can be used as acceptable values.

*Syntax*: Free text but only from controlled vocabulary

*Example Values*: real time reverse-transcription polymerase chain reaction assay - obo:OBI\_0000911

*Data Source*: Sample Provider

*Comments*: Required field. BioSample: will be included as custom attribute.

*OBO Foundry Synonym*: organism identification assay

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001624

*OBO Foundry Definition*: An assay that identifies the organism species in a specimen.

*BioSample Definition*:

*Other Synonyms*: BioSample: organism-detection-method; MIxS:sample collection device or method

1. **Specimen Repository**

*Core Sample Field ID*: CS22

*Field Name*: Specimen Repository

*Description*: Name of repository where a specimen sample has been deposited.

*Data Category*: Specimen Processing

*Allowed Values*: Free text. ‘Unknown’ or ‘Not applicable’ can be used as acceptable values.

*Syntax*:

*Example Values*: BEI Resources

*Data Source*: Sample Provider

*Comments*:

*OBO Foundry Synonym*: specimen repository organization

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001885

*OBO Foundry Definition*:

*BioSample Definition*: Name of source institute and unique culture identifier.

*Other Synonyms*: BioSample: culture-collection; MIxS: source material identifiers . Sample Repository Name.

1. **Specimen Repository Sample ID**

*Core Sample Field ID*: CS23

*Field Name*: Specimen Repository Sample ID

*Description*: Unique identifier assigned by sample repository to identity the specimen sample.

*Data Category*: Specimen Processing

*Allowed Values*: Valid repository assigned identifier of sample. ‘Unknown’ or ‘Not applicable’ can be used as acceptable values.

*Syntax*:

*Example Values*: ATCC BAA-1343

*Data Source*: Sample Provider

*Comments*:

*OBO Foundry Synonym*: specimen identifier assigned by specimen repository

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001900

*OBO Foundry Definition*: An information content entity that consists of a CRID symbol and additional information about which CRID registry it belongs.

*BioSample Definition*: Name of source institute and unique culture identifier.

*Other Synonyms*: BioSample: culture-collection; MIxS: source material identifiers. Repository Sample ID

1. ***Comments***

*Core Sample Field ID*: CS24

*Field Name*: Comments

*Description*: Any additional information about the initial specimen collection event, the sample preparation process, or any other aspect of the project worth noting.

*Data Category*: Specimen Comments

*Allowed Values*: Free text

*Syntax*: Free text

*Example Values*: host was found dead at location

*Data Source*: Sample Provider and/or GSCID

*Comments*:

*OBO Foundry Synonym*: comment on investigation

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001898

*OBO Foundry Definition*: A textual entity that is about any of the aspects of an investigation worth noting

*BioSample Definition*:

*Other Synonyms*:

1. **Specimen Collector Name**

*Core Sample Field ID*: CS25

*Field Name*: Specimen Collector Name

*Description*: Name of the person collecting the specimen and specimen collection metadata

*Data Category*: Specimen Isolation

*Allowed Values*: Free text

*Syntax*: Free text

*Example Values*: Will Birder

*Data Source*: Sample Provider

*Comments*:

*OBO Foundry Synonym*: specimen collector

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001895

*OBO Foundry Definition*: A person who collects the specimen

*BioSample Definition*:

*Other Synonyms*: BioSample: collected-by\*; Sample Collector Name

1. **Specimen Collector's Institution**

*Core Sample Field ID*: CS26

*Field Name*: Specimen Collector's Institution

*Description*: Institutional affiliation of the person collecting the specimen and specimen collection metadata

*Data Category*: Specimen Isolation

*Allowed Values*: Free text

*Syntax*: Free text

*Example Values*: International Ornithology Institute

*Data Source*: Sample Provider

*Comments*: BioSample: will be included as custom attribute

*OBO Foundry Synonym*: organization of specimen collector

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001893

*OBO Foundry Definition*: An organization that is the affiliation of the person collecting the specimen

*BioSample Definition*:

*Other Synonyms*: BioSample: specimen-collector's-institution; Sample Collector's Institution

1. **Specimen Collector's email**

*Core Sample Field ID*: CS27

*Field Name*: Specimen Collector's email

*Description*: Preferred email address of the person collecting the specimen and specimen collection metadata

*Data Category*: Specimen Isolation

*Allowed Values*: Free text

*Syntax*: Free text

*Example Values*: will.birder@ioi.org

*Data Source*: Sample Provider

*Comments*: BioSample: will be included as custom attribute

*OBO Foundry Synonym*: email address of specimen collector

*OBO Foundry Purl*: http://purl.obolibrary.org/obo/OBI\_0001890

*OBO Foundry Definition*: An email address of the person collecting the specimen

*BioSample Definition*:

*Other Synonyms*: BioSample: specimen-collector's-institution; Sample Collector's email