



BLUEPRINT proposed data submission schemas

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This PDF contains a file attachment named 'BLUEPRINT-data_model-0.3.1.0-20140218.bpmmodel', which is the version 0.3.1.0 of BLUEPRINT DCC data model.

*(model SHA1 ad492eb34566367510ac7f1f3d58335cfa5ab9dc)
(schema model SHA1 513101aabe46ea8490646f1a8706491d7811aa43)
(external controlled vocabulary SHA1 141e0092ad9f975973cdca94bbe0d1e5903625eb)*

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Chapter 1

Data Submission

1.1 Overview of Data Submission Process

There are four major steps in the data submission process:

1. Submit raw sequence data to the European Genome-phenome Archive
2. Prepare the BLUEPRINT submission files according to DCC data format specifications
3. Verify conformity of the submission files
4. Submit files to the DCC Secure FTP server

All submitted data must be based on **Human reference genome assembly GRCh37** and **GENCODE 15** (which uses **EnsEMBL gene set version 70**)

When submitting experimental data, please make sure you've already deposited your raw data to the appropriate public data repositories (eg: sequencing reads to EBI EGA) and then populate in your submission files the data elements **raw_data_repository** and **raw_data_accession** with the correct repository and accession number respectively.

1.2 Preparing Sample Tracking Data and Analyzed Contents for their submission

Submitted experimental data files must be from any one of these categories:

- [Sample Tracking](#)
- [Gene Expression](#)
- [Exon Junctions](#)
- [DNA *-lation \(Methylation, Hydroxy-Methylation, Formylation, etc...\)](#)
- [Protein-DNA interactions](#)
- [Regulatory regions](#)

BLUEPRINT DCC is hosting both sample tracking data and analyzed contents. Contents must be sent following the textual tabular formats defined below. Files with those contents must also follow the BLUEPRINT DCC file naming convention.

Each submitter must have a unique signing key, provided by DACO and DCC. Each file in a submitted archive must be accompanied by its SHA1 **uncompressed** content digest file, digitally signed with the submitter's signing key.

Signed digest generation and verification using OpenSSL

```
# Signed digest of uncompressed contents, will be dlat-p--001-20120920--mycode.txt.sha1
openssl dgst -sha1 -sign subKey.pem -out dlat-p--001-20120920--mycode.txt.sha1 \
dlat-p--001-20120920--mycode.txt

# Signed digest of already compressed contents
bunzip2 -c dlat-p--001-20120920--mycode.txt.bz2 | openssl dgst -sha1 -sign subKey.pem \
-out dlat-p--001-20120920--mycode.txt.sha1

# Verification of uncompressed contents using
# signed digest dlat-p--001-20120920--mycode.txt.sha1
openssl dgst -sha1 -verify subKey.pem.pub -signature dlat-p--001-20120920--mycode.txt.sha1 \
dlat-p--001-20120920--mycode.txt

# Verification of compressed contents
bunzip2 -c dlat-p--001-20120920--mycode.txt.bz2 | openssl dgst -sha1 -verify subKey.pem.pub \
-signature dlat-p--001-20120920--mycode.txt.sha1
```

The procedure to submit analyzed contents to BLUEPRINT DCC also involves first having the raw data used for the analysis in the [European Genome-phenome Archive \(EGA\)](#), as all the metadata entries from the analyzed contents to be stored in BLUEPRINT DCC **must point** to the original raw data.

1.2.1 File Naming Conventions

Submitted files, containing either sample tracking data or analyzed experiment contents, must follow next file naming convention

```
featureType-fileType--institutionCode-dateFileCreated--freeField.txt
```

```
featureType-fileType--institutionCode-dateFileCreated--freeField.txt.sha1
```

The file name components are mapped in the next way:

| Components | Description | Key |
|------------------------|---|---|
| <i>featureType</i> | Sample Tracking data Gene Expression Exon Junctions DNA *-lation (Methylation, Hydroxy-Methylation, Formylation, etc...) Protein-DNA interactions Regulatory regions | sdata exp jcn dlat pdna rreg |
| <i>fileType</i> | Metadata file Primary data file Secondary data file Gene expression file Donor file Specimen file Sample file Donor's Family file | m p s g donor specimen sample family |
| <i>institutionCode</i> | Institution submitting data | CV Table A.6.1 |
| <i>dateFileCreated</i> | The date on which the file is created | YYYYMMDD (ISO-8601) |
| <i>freeField</i> | An alphanumeric field (max length of 16 characters) where submitters can put internal codes, file sequence numbers, etc... | e.g.: mysample, 0B1845 |

Different file types of the same feature type are interrelated, because the data they are storing is intertwined. Specific relations are defined on the documentation of each feature type and their file types. For instance, information stored in a primary data file is related and depends on the data from its corresponding metadata file, and the same happens to secondary data files and primary data files. Metadata file contents are related to sample tracking data sample files.

1.2.2 Tabular File Structure

The submitted analyzed contents are kept in tab-delimited text files. General comments may be added to the beginning of the file with a hash ('#') prefixed at beginning of each comment line. The first non-comment line is the header containing the names of the columns. Each column corresponds to a data element defined in DCC Submission Tabular Formats specification ([Chapter 2](#)).

There is a subset of comment lines used to attach data labels to the text files. These data labels follow the form '##labelName value [value ...]'. Currently acknowledged data labels are:

- **format:** This label is **required**, and its value defines the BLUEPRINT data formatting schema used on the file.
- **depends:** Although this label is not always required, it is important to validate the data coherence of the whole data set, because it ensures related data is not corrupted. The values of this label are the file on the same submission this file is related to (for instance, the name of a metadata file), and the SHA1 digest value (in its hexadecimal representation) of that file's contents.

There are several ways to generate the SHA1 digest of a file, like libraries in most of the programming languages and command-line tools:

SHA1 digest generation

```
# Getting the SHA1 digest value of uncompressed contents using OpenSSL
openssl dgst -sha1 dlat-p--001-20120920--mycode.txt

SHA1(dlat-p--001-20120920--mycode.txt)= 81ae49a7014d2d0260625d3535fa6e2a4a0bc06f

# Getting the SHA1 digest value of uncompressed contents using sha1sum
sha1sum dlat-p--001-20120920--mycode.txt

81ae49a7014d2d0260625d3535fa6e2a4a0bc06f  dlat-p--001-20120920--mycode.txt
```

An example file is shown below (note that parts of the lines are omitted for readability):

```
dlat-p--001-20120920--mycode.txt
# This is an example of a primary analysis file for simple somatic mutations.
# File name: dlat-p--001-20120920--mycode.txt
#
# And it has its labels
##format 0.3.1.0
##depends dlat-m--001-20120920--mycode.txt 03366af5145107cc818f4827e86b61dcf998ff29
analysis_id  ↗analyzed_sample_id  ↗d_lated_fragment_id  ↗chromosome  ↗...  ↗note
an:001:000124  ↗sample:001:000035  ↗dlat:001:1234ff33  ↗1  ↗...  ↗#FF#
an:001:000124  ↗sample:001:000035  ↗dlat:001:00019878  ↗1  ↗...  ↗#FF#
an:001:000124  ↗sample:001:000092  ↗dlat:001:a712838  ↗21  ↗...  ↗#FF#
an:001:000124  ↗sample:001:000092  ↗dlat:001:abebdZZZZZ  ↗4  ↗...  ↗#FF#
```

All the declared columns for each file type must be set. Data columns are labeled as identifier or reference (**I**), required (**R**), desirable (**D**) or optional (**O**). Data providers (i.e. submitters) must put all the efforts in order to provide values for the idref and required data columns. The exception for this rule are the desirable fields, required fields which can be unknown on the first submissions, but in that case the fields these exceptions are properly documented.

There are several possible reasons why a column value (either desirable or optional) has not been provided. Next reserved codes must be used to describe the reason:

| Code | Meaning |
|-------|---|
| #FFF# | Data not supplied at this time (<i>for future fill</i>) |
| #NAA# | Not applicable for the context of the surrounding knowledge |
| #VO# | Data verified to be unknown (void, undef, null) |
| #DEF# | Data derived from a required or idref field |

Some data columns described in this submission manual contain values used as identifiers on BLUEPRINT DCC (e.g. `analysis_id`, `regulatory_region_id`, ...). As such, these identifiers should uniquely identify the entity they are referring (an analysis, a regulatory region, ...), and the identifier's value should be globally unique within a center's data submission. Also, these identifiers should be consistent along the different data submissions and releases. If you have to generate your own identifiers, there are some general recommendations, like using the same prefix for the identifiers of the same kind.

When you are submitting string values for columns which can contain URLs or multiple values delimited by commas, each separate value string, before being joined, should be [URI encoded](#).

1.3 File Submission Procedure

Files with the contents to be submitted, along with their corresponding signed digest, must be sent in a single [tar](#) archive. Either the tar archive or its embedded contents should be submitted compressed, using [gzip](#), [bzip2](#) or [xz](#) formats.

To be finished/defined

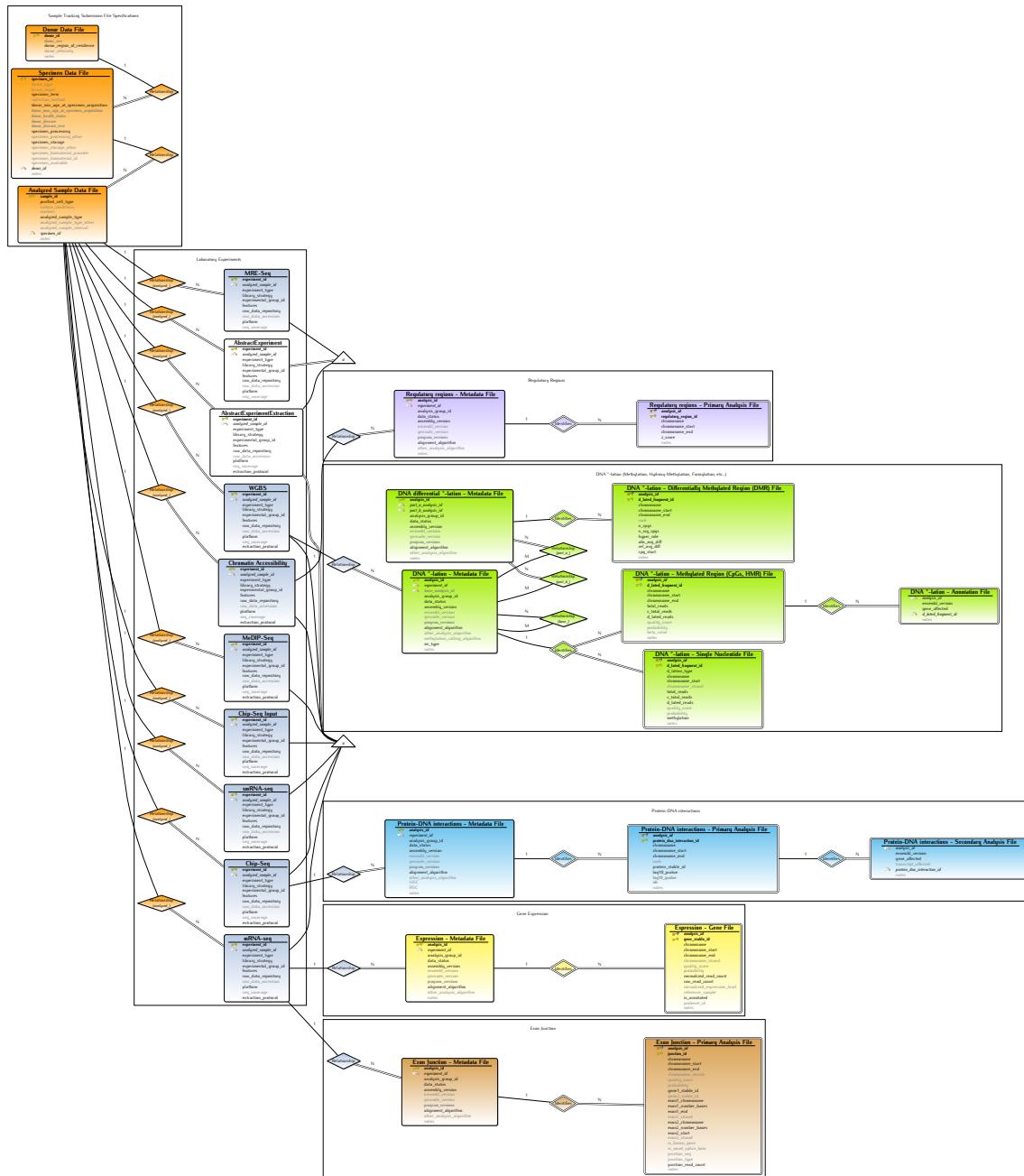


Figure 1.1: Overview of BLUEPRINT 0.3.1.0 data model

Chapter 2

DCC Submission Tabular Formats

2.1 Sample Tracking Submission File Specifications

Overview

There are three **required** sample and tissue annotation submission files, and one **optional** template file.

Core Sample Tracking Data Files

1. *Donor Data File (donor)*

Mandatory information about the donor's age, gender and vital status.

2. *Specimen Data File (specimen)*

Mandatory information about a specimen that was obtained from a donor. There may be several specimens per donor that were obtained concurrently or at different times.

3. *Analyzed Sample Data File (sample)*

Mandatory information about an analyzed sample that was subjected to molecular analysis. There may be several analyzed samples per specimen, for example, blood samples at different ages.

All data submissions to the DCC **must include the three core sample tracking data files**.

Optional Template Files

1. *Donor Family History (family)*

Optional details about family history of the donor

Coding of donor IDs

The three mandatory data files contain donor, specimen and analyzed sample IDs, respectively. These IDs are to be coded specifically for BLUEPRINT purposes and only the submitting group will keep the key that will permit to link back the data to the individual donors. The key must not be communicated to the data users. It should not be derived from other IDs such as biobank or hospital identifiers. These IDs are to be coded in such a way that they cannot be tracked back to the individual donors, except by the submitting group. IDs are assigned by each submitting group, and must be unique within all the data submitted by that group (i.e. no duplicate IDs allowed). The DCC will prevent collisions between similar IDs submitted by different groups by including the project source column by default in all BioMart queries.

Mapping with IHEC metadata As BLUEPRINT is integrated into IHEC ([International Human Epigenome Consortium](#)), many of the fields from the sample related concepts have been mapped to IHEC metadata fields. The fields which have not been (yet) mapped from Level 0 SAMPLES Data are:

- MOLECULE

- BIOMATERIAL_TYPE

The fields from Level 0 Data which are not going to be mapped, because they are not applicable to BLUEPRINT (project is not working with cellular lines) are:

- LINE

- LINEAGE
- DIFFERENTIATION_STAGE
- DIFFERENTIATION_METHOD
- PASSAGE and PASSAGE_IF_EXPANDED
- MEDIUM
- BATCH

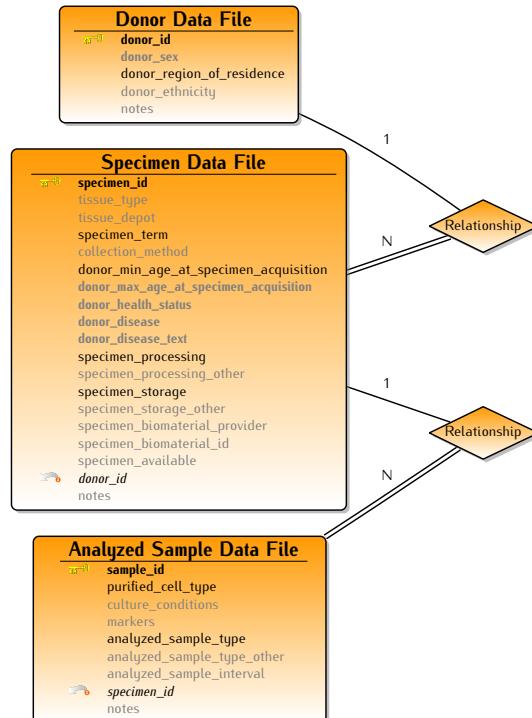


Figure 2.1: Sample Tracking Submission File Specifications Sub-Schema

2.1.1 Donor Data File

Donor Data File [donor] (required)

This submission file describes a donor from which one or more specimens were obtained.

Table 2.1.1: Donor Data File

| Name | Type | Need | Description / Values |
|------------------------|---------------------|------|--|
| <code>donor_id</code> | <code>string</code> | I | <i>Unique identifier for the donor; assigned by data provider.</i> <i>It corresponds with IHEC Level 0 DONOR_ID (Primary Cell, Primary Cell Culture & Primary Tissue)</i> |
| <code>donor_sex</code> | <code>string</code> | D | Donor biological sex. <i>It corresponds with IHEC Level 0 SEX (Cell Line) and DONOR_SEX (Primary Cell, Primary Cell Culture & Primary Tissue)</i> $m \mapsto$ male $f \mapsto$ female |

Continued on next page

Table 2.1.1 – continued from previous page

| Name | Type | Need | Description / Values |
|---------------------------|-----------------------------------|------|---|
| donor_region_of_residence | string[] (array sep: ,) | R | Country, and optionally state or province code, but not city. <i>ISO3166-1-alpha-2 or ISO3166-2 codes, eg: "CA" or "CA-ON" (See external CV description A.5)</i> |
| donor_ethnicity | string | O | Donor ethnicity, from LOINC (subset ethnicity) <i>It corresponds with IHEC Level 0 DONOR_ETHNICITY (Primary Cell, Primary Cell Culture & Primary Tissue)</i> |
| notes | text | O | Any additional non-identifying information can be included here. |

2.1.2 Specimen Data File

Specimen Data File [specimen] (required)

This submission file describes a specimen from which one or more samples were derived. Use additional rows for more than one specimen from the same patient. If more than one specimen was extracted during the same procedure, each gets a distinct ID.

Table 2.1.2: Specimen Data File

| Name | Type | Need | Description / Values |
|---------------------------------------|-----------------|------|--|
| specimen_id | string | I | Unique identifier for the specimen assigned by data provider. |
| tissue_type | string | O | Free text description of site where the specimen was taken. <i>It corresponds to IHEC Level 0 TISSUE_TYPE (Primary Tissue)</i> |
| tissue_depot | string | O | Details about the anatomical location from which the specimen was collected <i>It corresponds to IHEC Level 0 TISSUE_DEPOT (Primary Tissue)</i> |
| specimen_term | string | R | Term from BRENDA Tissue Ontology which identifies the tissue (or the place where the specimen was taken) <i>It maps IHEC Level 0 TISSUE_TYPE and IHEC Level 0 TISSUE_DEPOT (both from Primary Tissue) to BRENDA Tissue Ontology (See external CV description A.4)</i> |
| collection_method | text | O | The protocol followed to collect the specimen <i>It corresponds to IHEC Level 0 COLLECTION_METHOD (Primary Tissue)</i> |
| donor_min_age_at_specimen_acquisition | duration | R | Donor minimal age when the specimen was acquired, in ISO-8601 duration (basic format) <i>It corresponds with IHEC Level 0 DONOR_AGE (Primary Cell, Primary Cell Culture & Primary Tissue), which contains the minimal age</i> |
| donor_max_age_at_specimen_acquisition | duration | D | Donor max age when the specimen was acquired. If it is set to #DE#, the default value for this column is from donor_min_age_at_specimen_acquisition <i>It corresponds with IHEC Level 0 DONOR_AGE (Primary Cell, Primary Cell Culture & Primary Tissue), which contains the maximal age</i> |

Continued on next page

Table 2.1.2 – continued from previous page

| Name | Type | Need | Description / Values |
|-------------------------------|---------|------|---|
| donor_health_status | boolean | D | The donor health status at specimen acquisition (when available) <i>It corresponds with IHEC Level 0</i> DONOR_HEALTH_STATUS (<i>Primary Cell, Primary Cell Culture & Primary Tissue</i>) |
| donor_disease | string | D | If the donor was ill, the EFO code (browsable here) or SNOMED-CT code (from <i>Disease branch</i>) of the disease at acquisition time. Use code EFO_0000761 when the donor was healthy <i>This value can come from EGA Phenotype field. When this field and donor_disease_text are set, the description of the term in this field should be used</i> |
| donor_disease_text | string | D | If the donor was ill, the disease name at acquisition time. <i>It corresponds to IHEC Level 0 DISEASE</i> (<i>Cell Line, Primary Cell, Primary Cell Culture & Primary Tissue</i>). <i>When it is possible, use donor_disease field</i> |
| specimen_processing | string | R | Description of technique used to process specimen 1 ↳ cryopreservation in liquid nitrogen (dead tissue) 2 ↳ cryopreservation in dry ice (dead tissue) 3 ↳ cryopreservation of live cells in liquid nitrogen 4 ↳ cryopreservation, other 5 ↳ formalin fixed, unbuffered 6 ↳ formalin fixed, buffered 7 ↳ formalin fixed & paraffin embedded 8 ↳ fresh 9 ↳ other technique |
| specimen_processing_other | string | O | If "other" specified for specimen_processing, may indicate technique here. |
| specimen_storage | string | R | Description of how specimen was stored. For specimens that were extracted freshly or immediately cultured, answer (1) "NA". 1 ↳ frozen, liquid nitrogen 2 ↳ frozen, -70 freezer 3 ↳ frozen, vapor phase 4 ↳ RNA later frozen 5 ↳ paraffin block 6 ↳ cut slide 7 ↳ other |
| specimen_storage_other | string | O | If "other" specified for specimen_storage, may indicate technique here. |
| specimen_biomaterial_provider | string | O | If the specimen was obtained from a biobank, provide the biobank name here <i>It corresponds with IHEC Level 0</i> BIMATERIAL_PROVIDER (<i>Cell Line, Primary Cell, Primary Cell Culture & Primary Tissue</i>) |
| specimen_biomaterial_id | string | O | If the specimen was obtained from a biobank, provide the biobank accession number here. |
| specimen_available | boolean | O | Whether additional tissue is available for followup studies. |

Continued on next page

Table 2.1.2 – continued from previous page

| Name | Type | Need | Description / Values |
|----------|--------|------|---|
| donor_id | string | R | <i>Unique identifier for the donor; assigned by data provider.</i> Relates to Donor Data File (donor_id) <i>It corresponds with IHEC Level 0 DONOR_ID (Primary Cell, Primary Cell Culture & Primary Tissue)</i> |
| notes | text | O | Any additional non-identifying information can be included here. |

2.1.3 Analyzed Sample Data File

Analyzed Sample Data File [sample] (required)

This submission file describes an analyzed sample on which molecular characterization was performed. It includes both control samples (from healthy people) and samples from ill people.

Table 2.1.3: Analyzed Sample Data File

| Name | Type | Need | Description / Values |
|----------------------------|---------|------|---|
| sample_id | string | I | <i>Unique identifier for the sample assigned by data provider</i> |
| purified_cell_type | string | R | Purified cell type for the sample <i>It corresponds more or less with IHEC Level 0 CELL_TYPE (Primary Cell & Primary Cell Culture) (See external CV description A.3)</i> |
| culture_conditions | string | O | The conditions under which the primary cell was cultured <i>It corresponds with IHEC Level 0 CULTURE_CONDITIONS (Primary Cell Culture)</i> |
| markers | string | O | Markers used to isolate and identify the cell type <i>It corresponds with IHEC Level 0 MARKERS (Primary Cell & Primary Cell Culture)</i> |
| analyzed_sample_type | string | R | Controlled vocabulary description of sample type n_blood ↪ Normal blood l_blood ↪ Leukemic blood 3 ↪ Normal control adjacent to primary 4 ↪ Normal control from non-tumour site 5 ↪ Control from cell line derived from normal tissue 6 ↪ Normal mouse host 7 ↪ Primary tumour 8 ↪ Mouse xenograft derived from tumour 9 ↪ Cell line derived from tumour 10 ↪ Cell line derived from xenograft 11 ↪ Other (specify) |
| analyzed_sample_type_other | string | O | Free text description of site of sample if "other" was specified in <i>analyzed_sample_type</i> field |
| analyzed_sample_interval | integer | O | Interval from specimen acquisition to sample use in an analytic procedure (e.g. DNA extraction), in days |
| specimen_id | string | R | Unique identifier for the specimen assigned by data provider. Relates to Specimen Data File (specimen_id) |
| notes | text | O | Any additional non-identifying information can be included here. |

2.2 Laboratory Experiments

These concepts are based on Version 1.1 of IHEC Metadata (July 3rd, 2013)

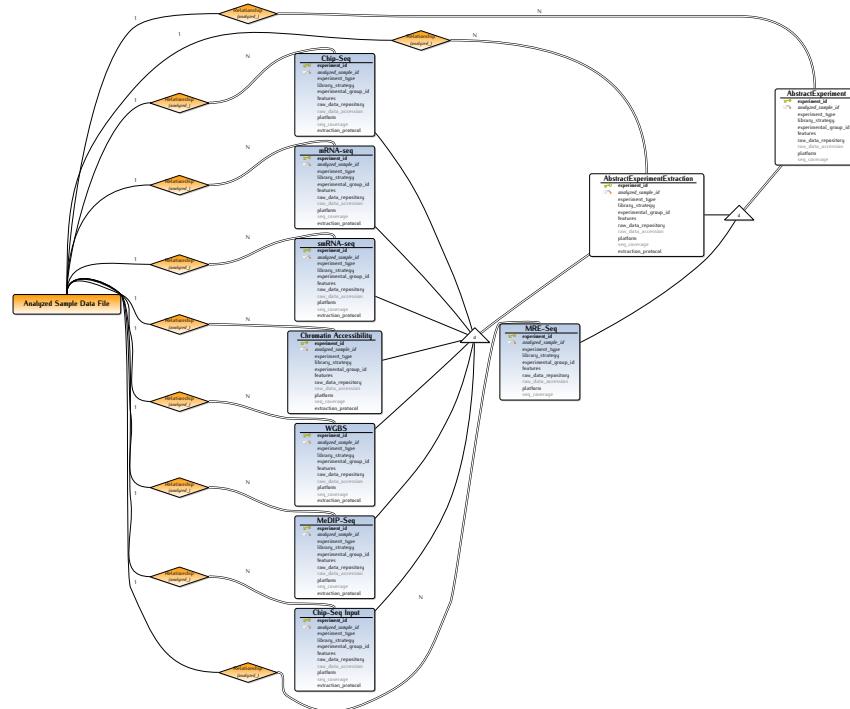


Figure 2.2: Laboratory Experiments Sub-Schema

2.2.1 AbstractExperiment

Table 2.2.1: AbstractExperiment

| Name | Type | Need | Description / Values |
|-----------------------|--------|------|--|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> Relates to Analyzed Sample Data File (sample_id) |
| experiment_type | string | R | The type of experiment, from the point of view of IHEC (it is later subclassified) <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (Chromatin Accessibility, WGBS, MeDIP-Seq, MRE-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq)</i> |
| library_strategy | string | R | The type of experiment, from the point of view of EGA/SRA (it is later subclassified) <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata (See CV A.18)</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment (See CV A.6) |

Continued on next page

Table 2.2.1 – continued from previous page

| Name | Type | Need | Description / Values |
|---------------------|--|------|---|
| features | compound[] <i>feature=value*units (array seps ;)</i> | R | The known features/experimental conditions about the experiment |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) (See CV A.10) |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase (See CV A.7) |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |

2.2.2 AbstractExperimentExtraction

This concept extends [AbstractExperiment](#)

Table 2.2.2: AbstractExperimentExtraction

| Name | Type | Need | Description / Values |
|-----------------------|--|------|---|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> Relates to Analyzed Sample Data File (sample_id) |
| experiment_type | string | R | The type of experiment, from the point of view of IHEC (it is later subclassified) <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (Chromatin Accessibility, WGBS, MeDIP-Seq, MRE-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq)</i> |
| library_strategy | string | R | The type of experiment, from the point of view of EGA/SRA (it is later subclassified) <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata (See CV A.18)</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment (See CV A.6) |
| features | compound[] <i>feature=value*units (array seps ;)</i> | R | The known features/experimental conditions about the experiment |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) (See CV A.10) |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase (See CV A.7) |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |

Continued on next page

Table 2.2.2 – continued from previous page

| Name | Type | Need | Description / Values |
|---------------------|------|------|---|
| extraction_protocol | text | R | The protocol used to isolate the extracted material <i>It corresponds with IHEC Level 0</i> EXTRACTION_PROTOCOL (<i>Chromatin Accessibility, WGBS, MeDIP-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq</i>) |

2.2.3 Chromatin Accessibility

This concept extends AbstractExperimentExtraction

Table 2.2.3: Chromatin Accessibility

| Name | Type | Need | Description / Values |
|-----------------------|--|------|---|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> Relates to Analyzed Sample Data File (sample_id) |
| experiment_type | string | R | Type of experiment: Chromatin Accessibility <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (Chromatin Accessibility)</i> |
| library_strategy | string | R | The library strategy, from the point of view of EGA/SRA <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment (See CV A.6) |
| features | compound[] <i>feature=value*units</i> (array seps ;) | R | The known features/experimental conditions about the Chromatin Accessibility experiment feature DNASE_PROTOCOL ↪ Protocol used for DNase treatment |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) (See CV A.10) |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase (See CV A.7) |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |
| extraction_protocol | text | R | The protocol used to isolate the extracted material <i>It corresponds with IHEC Level 0</i> EXTRACTION_PROTOCOL (<i>Chromatin Accessibility, WGBS, MeDIP-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq</i>) |

2.2.4 WGBS

This concept extends AbstractExperimentExtraction

Table 2.2.4: WGBS

| Name | Type | Need | Description / Values |
|-----------------------|---|------|--|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> Relates to Analyzed Sample Data File (sample_id) |
| experiment_type | string | R | Type of experiment: DNA Methylation <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (WGBS)</i> |
| library_strategy | string | R | The library strategy, from the point of view of EGA/SRA <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY, from EGA/SRA 1.2 metadata</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment (See CV A.6) |
| features | compound[] <i>feature=value*units</i> (array sep= ;) | R | The known features/experimental conditions about the WGBS experiment feature → (See CV A.11) |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) (See CV A.10) |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase (See CV A.7) |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |
| extraction_protocol | text | R | The protocol used to isolate the extracted material <i>It corresponds with IHEC Level 0 EXTRACTION_PROTOCOL (Chromatin Accessibility, WGBS, MeDIP-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq)</i> |

2.2.5 MeDIP-Seq

This concept extends [AbstractExperimentExtraction](#)

Table 2.2.5: MeDIP-Seq

| Name | Type | Need | Description / Values |
|--------------------|---------------|------|---|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> Relates to Analyzed Sample Data File (sample_id) |
| experiment_type | string | R | Type of experiment: DNA Methylation <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (MeDIP-Seq)</i> |

Continued on next page

Table 2.2.5 – continued from previous page

| Name | Type | Need | Description / Values |
|-----------------------|--|------|--|
| library_strategy | string | R | The library strategy, from the point of view of EGA/SRA <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment (See CV A.6) |
| features | compound[] <i>feature=value*units (array sep ;)</i> | R | The known features/experimental conditions about the MeDIP-Seq experiment feature → (See CV A.12) |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) (See CV A.10) |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase (See CV A.7) |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |
| extraction_protocol | text | R | The protocol used to isolate the extracted material <i>It corresponds with IHEC Level 0 EXTRACTION_PROTOCOL (Chromatin Accessibility, WGBS, MeDIP-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq)</i> |

2.2.6 MRE-Seq

This concept extends [AbstractExperiment](#)

Table 2.2.6: MRE-Seq

| Name | Type | Need | Description / Values |
|-----------------------|--------|------|---|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> Relates to Analyzed Sample Data File (sample_id) |
| experiment_type | string | R | Type of experiment: DNA Methylation <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (MRE-Seq)</i> |
| library_strategy | string | R | The library strategy, from the point of view of EGA/SRA <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment (See CV A.6) |

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Table 2.2.6 – continued from previous page

| Name | Type | Need | Description / Values |
|---------------------|--|------|--|
| features | compound[] <i>feature=value*units (array seps ;)</i> | R | The known features/experimental conditions about the MRE-Seq experiment feature → (See CV A.13) |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) (See CV A.10) |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase (See CV A.7) |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |

2.2.7 Chip-Seq Input

This concept extends [AbstractExperimentExtraction](#)

Table 2.2.7: Chip-Seq Input

| Name | Type | Need | Description / Values |
|-----------------------|--|------|--|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> Relates to Analyzed Sample Data File (sample_id) |
| experiment_type | string | R | Type of experiment: ChIP-Seq Input <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (Chip-Seq Input)</i> |
| library_strategy | string | R | The library strategy, from the point of view of EGA/SRA <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment (See CV A.6) |
| features | compound[] <i>feature=value*units (array seps ;)</i> | R | The known features/experimental conditions about the Chip-Seq Input experiment feature → (See CV A.14) |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) (See CV A.10) |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase (See CV A.7) |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |
| extraction_protocol | text | R | The protocol used to isolate the extracted material <i>It corresponds with IHEC Level 0 EXTRACTION_PROTOCOL (Chromatin Accessibility, WGBS, MeDIP-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq)</i> |

2.2.8 Chip-Seq

This concept extends [AbstractExperimentExtraction](#)

Table 2.2.8: Chip-Seq

| Name | Type | Need | Description / Values |
|-----------------------|---|------|--|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> <i>Relates to Analyzed Sample Data File (sample_id)</i> |
| experiment_type | string | R | Type of experiment: 'Histone H3K4me1','Histone H3K4me3','Histone H3K9me3','Histone H3K9ac','Histone H3K27me3', 'Histone H3K36me3', etc... <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (Chip-Seq)</i> |
| library_strategy | string | R | The library strategy, from the point of view of EGA/SRA <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment <i>(See CV A.6)</i> |
| features | compound[] <i>feature=value*units</i> (array sep: ;) | R | The known features/experimental conditions about the Chip-Seq experiment feature → <i>(See CV A.15)</i> |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) <i>(See CV A.10)</i> |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase <i>(See CV A.7)</i> |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |
| extraction_protocol | text | R | The protocol used to isolate the extracted material <i>It corresponds with IHEC Level 0 EXTRACTION_PROTOCOL (Chromatin Accessibility, WGBS, MeDIP-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq)</i> |

2.2.9 mRNA-seq

This concept extends [AbstractExperimentExtraction](#)

Table 2.2.9: mRNA-seq

| Name | Type | Need | Description / Values |
|-------------------------------|---------------|------|--|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| <i>Continued on next page</i> | | | |

Table 2.2.9 – continued from previous page

| Name | Type | Need | Description / Values |
|-----------------------|---|------|---|
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> <i>Relates to Analyzed Sample Data File (sample_id)</i> |
| experiment_type | string | R | Type of experiment: mRNA-seq <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (mRNA-seq)</i> |
| library_strategy | string | R | The library strategy, from the point of view of EGA/SRA <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment <i>(See CV A.6)</i> |
| features | compound[] <i>feature=value*units</i> (array seps ;) | R | The known features/experimental conditions about the mRNA-seq experiment feature → (See CV A.16) |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) <i>(See CV A.10)</i> |
| raw_data_accession | compound <i>accession;url</i> | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase <i>(See CV A.7)</i> |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |
| extraction_protocol | text | R | The protocol used to isolate the extracted material <i>It corresponds with IHEC Level 0 EXTRACTION_PROTOCOL (Chromatin Accessibility, WGBS, MeDIP-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq)</i> |

2.2.10 smRNA-seq

This concept extends [AbstractExperimentExtraction](#)

Table 2.2.10: smRNA-seq

| Name | Type | Need | Description / Values |
|--------------------|---------------|------|--|
| experiment_id | string | I | Unique identifier for the experiment performed on a sample |
| analyzed_sample_id | string | R | <i>Unique identifier for the sample assigned by data provider</i> <i>Relates to Analyzed Sample Data File (sample_id)</i> |
| experiment_type | string | R | Type of experiment: smRNA-seq <i>It corresponds with IHEC Level 0 EXPERIMENT_TYPE (smRNA-Seq)</i> |

Continued on next page

Table 2.2.10 – continued from previous page

| Name | Type | Need | Description / Values |
|-----------------------|--|------|--|
| library_strategy | string | R | The library strategy, from the point of view of EGA/SRA <i>It corresponds with /EXPERIMENT_SET/EXPERIMENT/DESIGN/LIBRARY_DESCRIPTOR/LIBRARY_STRATEGY , from EGA/SRA 1.2 metadata</i> |
| experimental_group_id | string | R | Identifier of the experimental group who did the experiment (See CV A.6) |
| features | compound[] feature=value*units (array sep ;) | R | The known features/experimental conditions about the smRNA-seq experiment feature → (See CV A.17) |
| raw_data_repository | integer | R | Public repository where raw data is submitted (#) (See CV A.10) |
| raw_data_accession | compound accession;url | O | Accession and URL for referencing the raw data at the public repository |
| platform | integer | R | Platform or technology used in the detection phase (See CV A.7) |
| seq_coverage | decimal | O | Sequence coverage if analyzed by sequencing platforms |
| extraction_protocol | text | R | The protocol used to isolate the extracted material <i>It corresponds with IHEC Level 0 EXTRACTION_PROTOCOL (Chromatin Accessibility, WGBS, MeDIP-Seq, Chip-Seq Input, Chip-Seq, mRNA-seq, smRNA-Seq)</i> |

2.3 Gene Expression

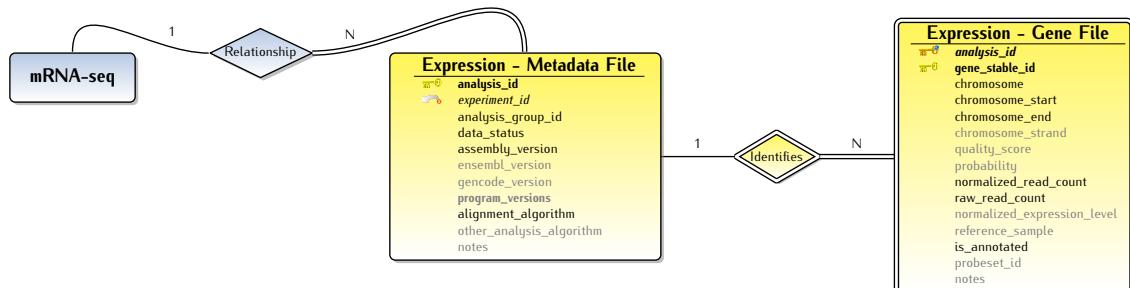


Figure 2.3: Gene Expression Sub-Schema

2.3.1 Expression – Metadata File

Expression [exp] – Metadata File [m]

Table 2.3.1: Expression – Metadata File

| Name | Type | Need | Description / Values |
|-------------------------------|--------|------|--|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples |
| <i>Continued on next page</i> | | | |

Table 2.3.1 – continued from previous page

| Name | Type | Need | Description / Values |
|--------------------------|--|------|---|
| experiment_id | string | R | Unique identifier for the experiment performed on a sample Relates to mRNA-seq (experiment_id) |
| analysis_group_id | string | R | Identifier of the analysis group (i.e. the one who prepared/run the pipeline) (See CV A.6) |
| data_status | integer | R | The status of the analysis over the associated raw data -1 ↳ Withdrawn 0 ↳ Only raw data available 1 ↳ Raw data available (analysis in process) 2 ↳ Raw and analysis data available (analysis finished) |
| assembly_version | integer | R | Version of reference genome assembly (See CV A.9) |
| ensembl_version | integer | O | Version of Ensembl |
| gencode_version | integer | O | Version of Gencode |
| program_versions | compound[] program:version (array sep ;) | D | The versions of (some of) the programs used for the analysis |
| alignment_algorithm | compound name;url | R | Name of alignment algorithm and URL to written protocol |
| other_analysis_algorithm | compound[] name;url (array sep ,) | O | Names of other analysis algorithms. Separate multiple algorithms by commas. |
| notes | text | O | Optional field to leave notes |

2.3.2 Expression – Gene File

Expression [exp] – Gene File [g]

Table 2.3.2: Expression – Gene File

| Name | Type | Need | Description / Values |
|-------------------|---------|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples Relates to Expression – Metadata File (analysis_id) |
| gene_stable_id | string | I | For annotated gene, use Ensembl gene ID. Otherwise, use assemblyBuild_chr_start_end where assemblyBuild is hg19. |
| chromosome | string | R | Name of the chromosome containing the experimentally detected feature (mutation, variation, expression, ...) (See CV A.8) |
| chromosome_start | integer | R | Start position of the mutation/variation on the chromosome |
| chromosome_end | integer | R | End position of the mutation/variation on the chromosome |
| chromosome_strand | integer | O | Strand where it was detected the mutation/variation on the chromosome -1 ↳ Reverse strand 1 ↳ Forward strand |
| quality_score | decimal | O | Average quality score for the mutation/variation call |

Continued on next page

Table 2.3.2 – continued from previous page

| Name | Type | Need | Description / Values |
|-----------------------------|---------|------|--|
| probability | decimal | 0 | Probability of the mutation/variation call |
| normalized_read_count | decimal | R | Normalized count of sequencing reads if analyzed by sequencing platforms |
| raw_read_count | integer | R | Raw count of sequencing reads if analyzed by sequencing platforms |
| normalized_expression_level | decimal | 0 | Normalized value of expression level if analyzed by microarray platforms |
| reference_sample | string | 0 | ID of the reference analyzed sample if differential expression is measured |
| is_annotated | boolean | R | If it is true, it indicate if the expressed fragment is annotated in GENCODE/Ensembl (i.e. gene_stable_id contains a Ensembl Gene Identifier) |
| probeset_id | string | 0 | ID of the probeset used in microarray if analyzed by microarray platform |
| notes | text | 0 | Optional field to leave notes |

2.4 Exon Junction

The following diagram, based on the one from ICGC DCC manual, illustrates how junction_id should be generated, how junction_read_count, exon1_number_bases and exon2_number_bases are calculated:

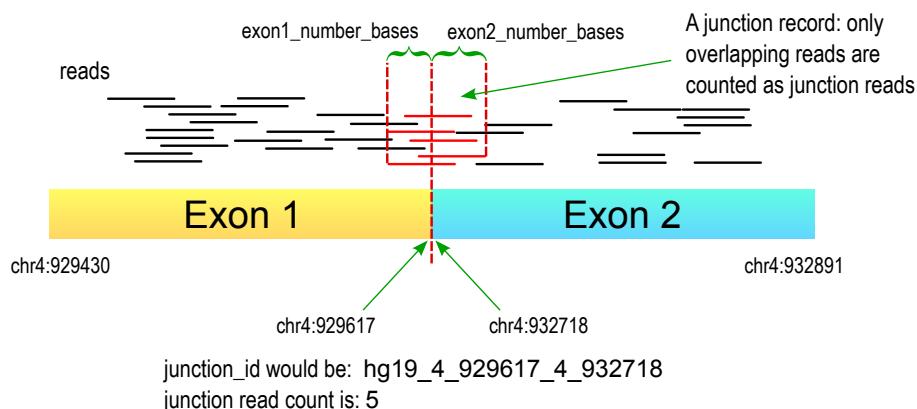


Figure 2.4: Junction Read Count explanation

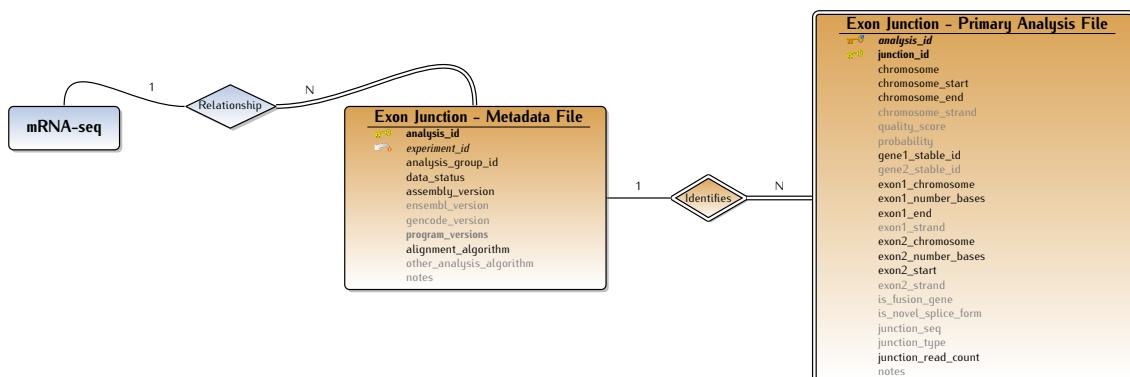


Figure 2.5: Exon Junction Sub-Schema

2.4.1 Exon Junction – Metadata File

Exon Junction [jcn] – Metadata File [m]

Table 2.4.1: Exon Junction – Metadata File

| Name | Type | Need | Description / Values |
|--------------------------|---|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples |
| experiment_id | string | R | Unique identifier for the experiment performed on a sample Relates to mRNA-seq (experiment_id) |
| analysis_group_id | string | R | Identifier of the analysis group (i.e. the one who prepared/run the pipeline) (See CVA.6) |
| data_status | integer | R | The status of the analysis over the associated raw data -1 ↳ Withdrawn 0 ↳ Only raw data available 1 ↳ Raw data available (analysis in process) 2 ↳ Raw and analysis data available (analysis finished) |
| assembly_version | integer | R | Version of reference genome assembly (See CVA.9) |
| ensembl_version | integer | O | Version of Ensembl |
| gencode_version | integer | O | Version of Gencode |
| program_versions | compound[] program:version (array seps ;) | D | The versions of (some of) the programs used for the analysis |
| alignment_algorithm | compound name;url | R | Name of alignment algorithm and URL to written protocol |
| other_analysis_algorithm | compound[] name;url (array seps ,) | O | Names of other analysis algorithms. Separate multiple algorithms by commas. |
| notes | text | O | Optional field to leave notes |

2.4.2 Exon Junction – Primary Analysis File

Exon Junction [jcn] – Primary Analysis File [p]

Table 2.4.2: Exon Junction – Primary Analysis File

| Name | Type | Need | Description / Values |
|-------------------------------|--------|------|--|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples Relates to Exon Junction – Metadata File (analysis_id) |
| junction_id | string | I | For known exons, use exonID1_exonID2 where exonID1 and exonID2 are Ensembl IDs of the 5' and 3' exons, respectively. For novel or putative exons, use assemblyBuild_exon1chr_exon1end_exon2chr_exon2start where assemblyBuild is hg18 or hg19; exon1chr and exon2chr are the chromosomes of the 5' and 3' exons, respectively; exon1end is the end position of the 5' exon; exon2start is the start position of the 3' exon. |
| <i>Continued on next page</i> | | | |

Table 2.4.2 – continued from previous page

| Name | Type | Need | Description / Values |
|----------------------|---------|------|--|
| chromosome | string | R | Name of the chromosome containing the experimentally detected feature (mutation, variation, expression, ...) <i>(See CV A.8)</i> |
| chromosome_start | integer | R | Start position of the mutation/variation on the chromosome |
| chromosome_end | integer | R | End position of the mutation/variation on the chromosome |
| chromosome_strand | integer | O | Strand where it was detected the mutation/variation on the chromosome -1 ↳ Reverse strand 1 ↳ Forward strand |
| quality_score | decimal | O | Average quality score for the mutation/variation call |
| probability | decimal | O | Probability of the mutation/variation call |
| gene1_stable_id | string | R | Stable ID of the gene containing the 5' exon at the junction. For GENCODE/Ensembl annotated gene, use Ensembl gene ID. For putative and novel gene, use assemblyBuild_chr_start_end where assemblyBuild can be hg18 or hg19. |
| gene2_stable_id | string | O | In the case of a fusion gene, provide the Stable ID of the gene containing the 3' exon at the junction. For GENCODE/Ensembl annotated genes, use Ensembl gene ID. For putative and novel genes, use assemblyBuild_chr_start_end where assemblyBuild can be hg18 or hg19. |
| exon1_chromosome | string | R | Name of the chromosome containing the 5' exon (#) <i>(See CV A.8)</i> |
| exon1_number_bases | integer | R | Number of bases from 5' exon |
| exon1_end | integer | R | End position of the 5' exon on the chromosome |
| exon1_strand | integer | O | Chromosome strand of the 5' exon -1 ↳ Reverse strand 1 ↳ Forward strand |
| exon2_chromosome | string | R | Name of the chromosome containing the 3' exon (#) <i>(See CV A.8)</i> |
| exon2_number_bases | integer | R | Number of bases from 3' exon |
| exon2_start | integer | R | Start position of the 3' exon on the chromosome |
| exon2_strand | integer | O | Chromosome strand of the 3' exon -1 ↳ Reverse strand 1 ↳ Forward strand |
| is_fusion_gene | boolean | O | Indicate if the function is the result of a fusion gene |
| is_novel_splice_form | boolean | O | Indicate if the splice form is novel |
| junction_seq | string | O | Provide junction sequence if either is_fusion_gene or is_novel_splice_form is true |
| junction_type | integer | O | Type of junction 1 ↳ Canonical 2 ↳ Non-canonical 3 ↳ U12 |
| junction_read_count | integer | R | Count of sequencing reads that span across exons |
| notes | text | O | Optional field to leave notes |

2.5 Protein-DNA interactions

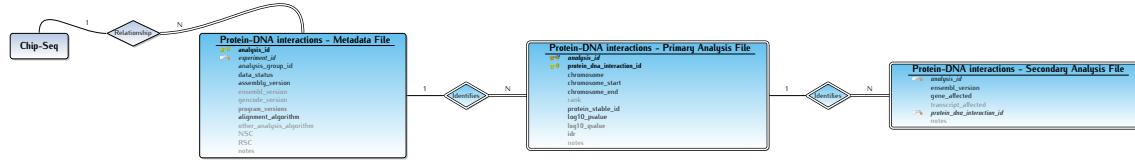


Figure 2.6: Protein-DNA interactions Sub-Schema

2.5.1 Protein-DNA interactions – Metadata File

Protein-DNA [pdna] – Metadata File [m]

Table 2.5.1: Protein-DNA interactions – Metadata File

| Name | Type | Need | Description / Values |
|--------------------------|---|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples |
| experiment_id | string | R | Unique identifier for the experiment performed on a sample Relates to Chip-Seq (experiment_id) |
| analysis_group_id | string | R | Identifier of the analysis group (i.e. the one who prepared/run the pipeline) (See CV A.5) |
| data_status | integer | R | The status of the analysis over the associated raw data -1 ↳ Withdrawn 0 ↳ Only raw data available 1 ↳ Raw data available (analysis in process) 2 ↳ Raw and analysis data available (analysis finished) |
| assembly_version | integer | R | Version of reference genome assembly (See CV A.9) |
| ensembl_version | integer | O | Version of Ensembl |
| gencode_version | integer | O | Version of Gencode |
| program_versions | compound[] program:version (array seps ;) | D | The versions of (some of) the programs used for the analysis |
| alignment_algorithm | compound name;url | R | Name of alignment algorithm and URL to written protocol |
| other_analysis_algorithm | compound[] name;url (array seps ,) | O | Names of other analysis algorithms. Separate multiple algorithms by commas. |
| NSC | decimal | O | Normalized strand cross-correlation of the analysis (see ENCODE quality metrics) |
| RSC | decimal | O | Relative strand cross-correlation of the analysis (see ENCODE quality metrics) |
| notes | text | O | Optional field to leave notes |

2.5.2 Protein-DNA interactions – Primary Analysis File

Protein-DNA [pdna] – Primary Analysis File [p]

Table 2.5.2: Protein-DNA interactions – Primary Analysis File

| Name | Type | Need | Description / Values |
|----------------------------|--|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples Relates to Protein-DNA interactions – Metadata File (analysis_id) |
| protein_dna_interaction_id | string | I | Unique identifier for the protein-DNA interaction |
| chromosome | string | R | Name of the chromosome containing the experimentally detected feature (mutation, variation, expression, ...) (See CV A.8) |
| chromosome_start | integer | R | Start position of the mutation/variation on the chromosome |
| chromosome_end | integer | R | End position of the mutation/variation on the chromosome |
| rank | compound[] rank:value (array seps ;) | O | Kind of used ranking and its value, in the form "rank:value". As it can hold more than one value, they are separated by semicolons |
| protein_stable_id | string | R | Stable id of the interacting protein, antibody or protein complex |
| log10_pvalue | decimal | R | -log10(p-value) |
| log10_qvalue | decimal | D | -log10(q-value) , which available for peaks, but not for broad peaks |
| idr | decimal | D | Irreproducible discovery rate |
| notes | text | O | Optional field to leave notes |

2.5.3 Protein-DNA interactions – Secondary Analysis File

Protein-DNA [pdna] – Secondary Analysis File [s]

Table 2.5.3: Protein-DNA interactions – Secondary Analysis File

| Name | Type | Need | Description / Values |
|----------------------------|-----------------------------------|------|--|
| analysis_id | string | R | Unique identifier for the analysis performed for a particular set of samples Relates to Protein-DNA interactions – Primary Analysis File (analysis_id) |
| ensembl_version | integer | R | Version of Ensembl gene build used for annotation (or the version of Ensembl gene build integrated into used GENCODE build) |
| gene_affected | string[] (array seps) | R | Gene affected. Use Ensembl gene id, separated by when there is more than one. If no gene is affected, don't put an entry (See external CV description A.1) |
| transcript_affected | string[] (array seps) | O | Transcript on the protein-DNA interaction area. Use Ensembl transcript id. Separate multiple transcripts with vertical bars in the form of transcriptA transcriptB transcriptC (See external CV description A.2) |
| protein_dna_interaction_id | string | R | Unique identifier for the protein-DNA interaction Relates to Protein-DNA interactions – Primary Analysis File (protein_dna_interaction_id) |
| notes | text | O | Optional field to leave notes |

2.6 Regulatory Regions

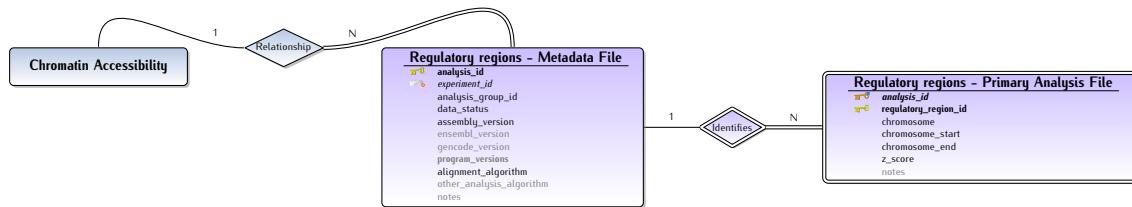


Figure 2.7: Regulatory Regions Sub-Schema

2.6.1 Regulatory regions – Metadata File

Regulatory regions [rreg] – Metadata File [m]

Table 2.6.1: Regulatory regions – Metadata File

| Name | Type | Need | Description / Values |
|--------------------------|---|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples |
| experiment_id | string | R | Unique identifier for the experiment performed on a sample Relates to Chromatin Accessibility (experiment_id) |
| analysis_group_id | string | R | Identifier of the analysis group (i.e. the one who prepared/run the pipeline) (See CV A.6) |
| data_status | integer | R | The status of the analysis over the associated raw data -1 ↪ Withdrawn 0 ↪ Only raw data available 1 ↪ Raw data available (analysis in process) 2 ↪ Raw and analysis data available (analysis finished) |
| assembly_version | integer | R | Version of reference genome assembly (See CV A.9) |
| ensembl_version | integer | O | Version of Ensembl |
| gencode_version | integer | O | Version of Gencode |
| program_versions | compound[] program:version (array seps ;) | D | The versions of (some of) the programs used for the analysis |
| alignment_algorithm | compound name;url | R | Name of alignment algorithm and URL to written protocol |
| other_analysis_algorithm | compound[] name;url (array seps ,) | O | Names of other analysis algorithms. Separate multiple algorithms by commas. |
| notes | text | O | Optional field to leave notes |

2.6.2 Regulatory regions – Primary Analysis File

Regulatory regions [rreg] – Primary Analysis File [p]

Table 2.6.2: Regulatory regions – Primary Analysis File

| Name | Type | Need | Description / Values |
|----------------------|---------|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples Relates to Regulatory regions – Metadata File (analysis_id) |
| regulatory_region_id | string | I | Unique identifier for the identified regulatory region |
| chromosome | string | R | Name of the chromosome containing the experimentally detected feature (mutation, variation, expression, ...) (See CV A.8) |
| chromosome_start | integer | R | Start position of the mutation/variation on the chromosome |
| chromosome_end | integer | R | End position of the mutation/variation on the chromosome |
| z_score | decimal | R | Combined z-score of the 250bp window for each tag |
| notes | text | O | Optional field to leave notes |

2.7 DNA *-lation (Methylation, Hydroxy-Methylation, Formylation, etc...)

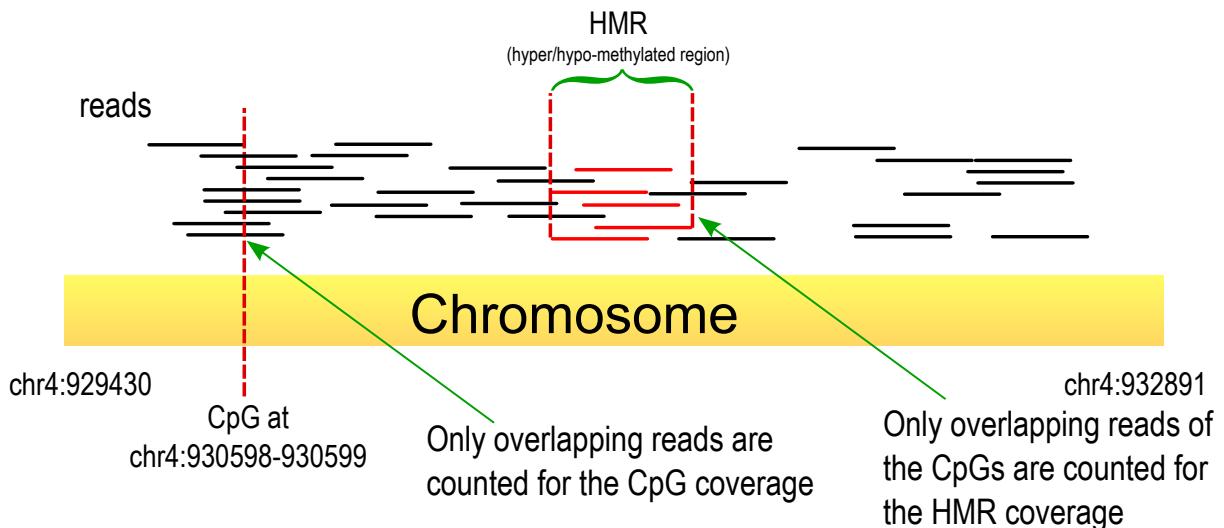


Figure 2.8: Cytosine, CpG and HMR explanation

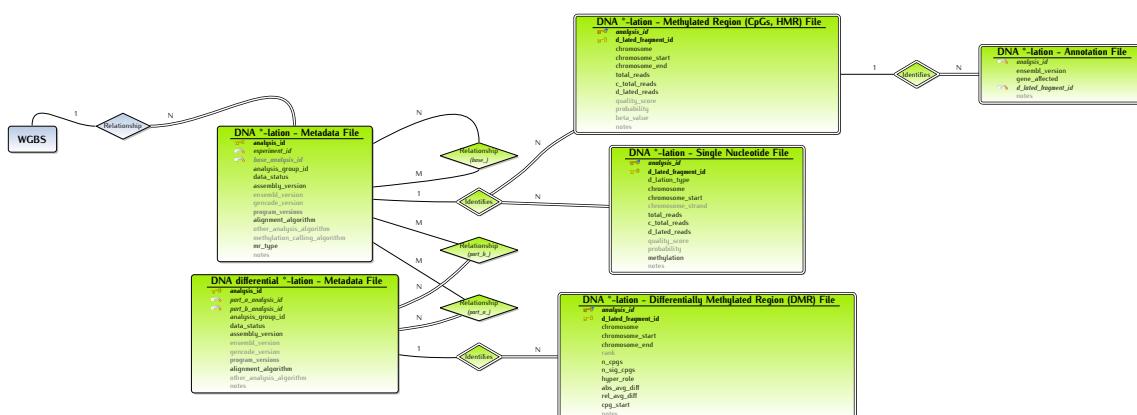


Figure 2.9: DNA *-lation (Methylation, Hydroxy-Methylation, Formylation, etc...) Sub-Schema

2.7.1 DNA *-lation – Metadata File

DNA *-lation [dlat] – Metadata File [m]

Table 2.7.1: DNA *-lation – Metadata File

| Name | Type | Need | Description / Values |
|-------------------------------|---|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples |
| experiment_id | string | R | Unique identifier for the experiment performed on a sample Relates to WGBS (experiment_id) |
| base_analysis_id | string[] (array seps ,) | D | Unique identifier for the analysis performed for a particular set of samples Relates to DNA *-lation – Metadata File (analysis_id) |
| analysis_group_id | string | R | Identifier of the analysis group (i.e. the one who prepared/run the pipeline) (See CV A.6) |
| data_status | integer | R | The status of the analysis over the associated raw data -1 ↪ Withdrawn 0 ↪ Only raw data available 1 ↪ Raw data available (analysis in process) 2 ↪ Raw and analysis data available (analysis finished) |
| assembly_version | integer | R | Version of reference genome assembly (See CV A.9) |
| ensembl_version | integer | O | Version of Ensembl |
| gencode_version | integer | O | Version of Gencode |
| program_versions | compound[] program:version (array seps ;) | D | The versions of (some of) the programs used for the analysis |
| alignment_algorithm | compound name;url | R | Name of alignment algorithm and URL to written protocol |
| other_analysis_algorithm | compound[] name;url (array seps ,) | O | Names of other analysis algorithms. Separate multiple algorithms by commas. |
| methylation_calling_algorithm | compound name;url | O | Name of variation calling algorithm and URL to written protocol |
| mr_type | string | R | The type of methylated region site c ↪ Single nucleotide *-lation cpg ↪ CpG dinucleotide hyper ↪ Hyper-methylated region hypo ↪ Hypo-methylated region |
| notes | text | O | Optional field to leave notes |

2.7.2 DNA *-lation – Single Nucleotide File

DNA *-lation [dlat] – Single Nucleotide File [n]

Table 2.7.2: DNA *-lation – Single Nucleotide File

| Name | Type | Need | Description / Values |
|---------------------|---------|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples Relates to DNA *-lation – Metadata File (analysis_id) |
| d_lated_fragment_id | string | I | Unique identifier for the methylated fragment, in the form d'*lationType chromosome_chromosomeStart_-chromosomeEnd |
| d_lation_type | string | R | Type of DNA *-lation (Methylation, Hydroxy-Methylation, Formylation, etc...) $\text{m} \mapsto$ Methylation (cytosine) $\text{hm} \mapsto$ Hydroxy-Methylation (cytosine) $\text{hmU} \mapsto$ Hydroxy-Methylation (uracil) $\text{f} \mapsto$ Formylation (cytosine) $\text{ca} \mapsto$ Carboxylation (cytosine) |
| chromosome | string | R | Name of the chromosome containing the experimentally detected feature (mutation, variation, expression, ...) (See CV A.8) |
| chromosome_start | integer | R | Start position of the mutation/variation on the chromosome |
| chromosome_strand | integer | O | Strand where it was detected the mutation/variation on the chromosome $-1 \mapsto$ Reverse strand $1 \mapsto$ Forward strand |
| total_reads | decimal | R | Total number of reads over this position/segment, either identifying or not a cytosine, for sequencing platforms. Mean reads depth for other technologies |
| c_total_reads | decimal | R | Reads which has identified this position as a cytosine |
| d_lated_reads | decimal | R | Reads which has identified this position as a DNA *lated cytosine |
| quality_score | decimal | O | Quality score for the DNA *-lation call |
| probability | decimal | O | Probability of the DNA *-lation call |
| methylation | decimal | R | DNA *-lation beta value (or average methylation) for interrogated site |
| notes | text | O | Optional field to leave notes |

2.7.3 DNA *-lation – Methylated Region (CpGs, HMR) File

DNA *-lation [dlat] – Methylated Region File [mr] for CpGs and hypo/hyper-methylated regions

Table 2.7.3: DNA *-lation – Methylated Region (CpGs, HMR) File

| Name | Type | Need | Description / Values |
|---------------------|--------|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples Relates to DNA *-lation – Metadata File (analysis_id) |
| d_lated_fragment_id | string | I | Unique identifier for the methylated fragment, in the form d'*lationType chromosome_chromosomeStart_-chromosomeEnd |
| chromosome | string | R | Name of the chromosome containing the experimentally detected feature (mutation, variation, expression, ...) (See CV A.8) |

Continued on next page

Table 2.7.3 – continued from previous page

| Name | Type | Need | Description / Values |
|------------------|---------|------|---|
| chromosome_start | integer | R | Start position of the mutation/variation on the chromosome |
| chromosome_end | integer | R | End position of the mutation/variation on the chromosome |
| total_reads | decimal | R | Total number of reads over this position/segment, either identifying or not a cytosine, for sequencing platforms. Mean reads depth for other technologies |
| c_total_reads | decimal | R | Reads which has identified this position as a cytosine |
| d_lated_reads | decimal | R | Reads which has identified this position as a DNA *lated cytosine |
| quality_score | decimal | 0 | Quality score for the DNA *-lation call |
| probability | decimal | 0 | Probability of the DNA *-lation call |
| beta_value | decimal | 0 | DNA *-lation beta value (or average methylation or) for interrogated site |
| notes | text | 0 | Optional field to leave notes |

2.7.4 DNA *-lation – Annotation File

DNA *-lation [dlat] – Annotation File [s]

Table 2.7.4: DNA *-lation – Annotation File

| Name | Type | Need | Description / Values |
|---------------------|----------------------------|------|--|
| analysis_id | string | R | Unique identifier for the analysis performed for a particular set of samples Relates to DNA *-lation – Methylated Region (CpGs, HMR) File (analysis_id) |
| ensembl_version | integer | R | Version of Ensembl gene build used for annotation (or the version of Ensembl gene build integrated into used GENCODE build) |
| gene_affected | string[] (array seps) | R | Gene affected. Use Ensembl gene id, separated by when there is more than one. If no gene is affected, don't put an entry (See external CV description A.1) |
| d_lated_fragment_id | string | R | Unique identifier for the methylated fragment, in the form d'*lationType chromosome_chromosomeStart_-chromosomeEnd Relates to DNA *-lation – Methylated Region (CpGs, HMR) File (d_lated_fragment_id) |
| notes | text | 0 | Optional field to leave notes |

2.7.5 DNA differential *-lation – Metadata File

DNA differential *-lation [dlat] – Metadata File [dm]

Table 2.7.5: DNA differential *-lation – Metadata File

| Name | Type | Need | Description / Values |
|--------------------|----------------------------|------|---|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples |
| part_a_analysis_id | string[] (array seps ,) | R | Unique identifier for the analysis performed for a particular set of samples Relates to DNA *-lation – Metadata File (analysis_id) |

Continued on next page

Table 2.7.5 – continued from previous page

| Name | Type | Need | Description / Values |
|--------------------------|--|------|---|
| part_b_analysis_id | string[] (array sdeps ,) | R | Unique identifier for the analysis performed for a particular set of samples Relates to DNA *-lation - Metadata File (analysis_id) |
| analysis_group_id | string | R | Identifier of the analysis group (i.e. the one who prepared/run the pipeline) (See CV A.6) |
| data_status | integer | R | The status of the analysis over the associated raw data -1 ↳ Withdrawn 0 ↳ Only raw data available 1 ↳ Raw data available (analysis in process) 2 ↳ Raw and analysis data available (analysis finished) |
| assembly_version | integer | R | Version of reference genome assembly (See CV A.9) |
| ensembl_version | integer | O | Version of Ensembl |
| gencode_version | integer | O | Version of Gencode |
| program_versions | compound[] <i>program:version</i> (array sdeps ;) | D | The versions of (some of) the programs used for the analysis |
| alignment_algorithm | compound <i>name;url</i> | R | Name of alignment algorithm and URL to written protocol |
| other_analysis_algorithm | compound[] <i>name;url</i> (array sdeps ,) | O | Names of other analysis algorithms. Separate multiple algorithms by commas. |
| notes | text | O | Optional field to leave notes |

2.7.6 DNA *-lation - Differentially Methylated Region (DMR) File

DNA *-lation [dlat] - Differentially Methylated Region File [dmr]

Table 2.7.6: DNA *-lation - Differentially Methylated Region (DMR) File

| Name | Type | Need | Description / Values |
|---------------------|---|------|--|
| analysis_id | string | I | Unique identifier for the analysis performed for a particular set of samples Relates to DNA differential *-lation - Metadata File (analysis_id) |
| d_lated_fragment_id | string | I | Unique identifier for the methylated fragment, in the form d'*lationType chromosome_chromosomeStart_-chromosomeEnd |
| chromosome | string | R | Name of the chromosome containing the experimentally detected feature (mutation, variation, expression, ...) (See CV A.8) |
| chromosome_start | integer | R | Start position of the mutation/variation on the chromosome |
| chromosome_end | integer | R | End position of the mutation/variation on the chromosome |
| rank | compound[] <i>rank:value</i> (array sdeps ;) | O | Kind of used ranking and its value, in the form "rank:value". As it can hold more than one value, they are separated by semicolons |

Continued on next page

Table 2.7.6 – continued from previous page

| Name | Type | Need | Description / Values |
|--------------|-------------------------------------|------|--|
| n_cpgs | integer | R | Number of CpGs in the DMR |
| n_sig_cpgs | integer | R | Number of significant CpGs in the DMR (z_score > 3 or < -3) |
| hyper_role | string | R | Which participant had the hypermethylation role in the comparison? A ↪ The hyper methylation role was given to participant A B ↪ The hyper methylation role was given to participant B |
| abs_avg_diff | decimal | R | Average of absolute methylation difference for the DMR |
| rel_avg_diff | decimal | R | Average of relative methylation difference for the DMR |
| cpg_start | integer[] (array sdeps ,) | R | The coordinates of the CpGs used for the calculation of this differentially methylated region |
| notes | text | O | Optional field to leave notes |

Appendix A

Controlled Vocabularies

A.1 Ensembl Genes

This controlled vocabulary has 62069 terms

Valid Ensembl Genes identifiers

(See it at http://jan2013.archive.ensembl.org/Homo_sapiens/Info/Index)

A.2 Ensembl Transcripts

This controlled vocabulary has 213272 terms

Valid Ensembl Transcript identifiers

(See it at http://jan2013.archive.ensembl.org/Homo_sapiens/Info/Index)

A.3 Cell Ontology

This controlled vocabulary has 4299 terms

The Cell Ontology is designed as a structured controlled vocabulary for cell types \$Revision: 1.113 \$ See PMID:15693950, PMID:12799354, PMID:20123131, PMID:21208450; Contact Alexander Diehl, adiehl@buffalo.edu, University at Buffalo.

Table A.3.1: Cell Ontology

| Key | Description |
|-------------|-------------------------------|
| CHEBI:23367 | molecular entity |
| CHEBI:24431 | chemical entity |
| CHEBI:24651 | hydroxides |
| CHEBI:25179 | melanin |
| CHEBI:25806 | oxygen molecular entity |
| CHEBI:26195 | polyphenol |
| CHEBI:33243 | natural product |
| CHEBI:33304 | chalcogen molecular entity |
| CHEBI:33579 | main group molecular entity |
| CHEBI:33582 | carbon group molecular entity |
| CHEBI:33608 | hydrogen molecular entity |
| CHEBI:33674 | s-block molecular entity |
| CHEBI:33675 | p-block molecular entity |
| CHEBI:33822 | organic hydroxy compound |

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Table A.3.1 – continued from previous page

| Key | Description |
|-------------|---|
| CHEBI:36357 | Polyatomic entity |
| CHEBI:37577 | Heteroatomic molecular entity |
| CHEBI:50860 | Organic molecular entity |
| CL:0000000 | Cell |
| CL:0000001 | Primary cultured cell |
| CL:0000002 | Immortal cell line cell |
| CL:0000003 | Native cell |
| CL:0000005 | Fibroblast neural crest derived |
| CL:0000006 | Neuronal receptor cell |
| CL:0000007 | Early embryonic cell |
| CL:0000008 | Migratory cranial neural crest cell |
| CL:0000010 | Cultured cell |
| CL:0000011 | Migratory trunk neural crest cell |
| CL:0000014 | Germ line stem cell |
| CL:0000015 | Male germ cell |
| CL:0000016 | Male germ line stem cell |
| CL:0000017 | Spermatocyte |
| CL:0000018 | Spermatid |
| CL:0000019 | Sperm |
| CL:0000020 | Spermatogonium |
| CL:0000021 | Female germ cell |
| CL:0000022 | Female germ line stem cell |
| CL:0000023 | Oocyte |
| CL:0000024 | Oogonial cell |
| CL:0000025 | Egg |
| CL:0000026 | Invertebrate nurse cell |
| CL:0000027 | Smooth muscle cell neural crest derived |
| CL:0000028 | CNS neuron (sensu Nematoda and Protostomia) |
| CL:0000029 | Neuron neural crest derived |
| CL:0000030 | Glioblast |
| CL:0000031 | Neuroblast |
| CL:0000032 | Neuroplacodal cell |
| CL:0000033 | Apocrine cell |
| CL:0000034 | Stem cell |
| CL:0000035 | Single fate stem cell |
| CL:0000036 | Epithelial fate stem cell |
| CL:0000037 | Hematopoietic stem cell |
| CL:0000038 | Erythroid progenitor cell |
| CL:0000039 | Germ line cell |
| CL:0000040 | Monoblast |
| CL:0000041 | Mature eosinophil |
| CL:0000042 | Neutrophilic myeloblast |
| CL:0000043 | Mature basophil |
| CL:0000047 | Neuronal stem cell |
| CL:0000048 | Multi fate stem cell |
| CL:0000049 | Common myeloid progenitor |
| CL:0000050 | Megakaryocyte-erythroid progenitor cell |
| CL:0000051 | Common lymphoid progenitor |
| CL:0000052 | Totipotent stem cell |
| CL:0000054 | Bone matrix secreting cell |
| CL:0000055 | Non-terminally differentiated cell |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0000056 | myoblast |
| CL:0000057 | fibroblast |
| CL:0000058 | chondroblast |
| CL:0000059 | ameloblast |
| CL:0000060 | odontoblast |
| CL:0000061 | cementoblast |
| CL:0000062 | osteoblast |
| CL:0000064 | ciliated cell |
| CL:0000065 | ependymal cell |
| CL:0000066 | epithelial cell |
| CL:0000067 | ciliated epithelial cell |
| CL:0000068 | duct epithelial cell |
| CL:0000069 | branched duct epithelial cell |
| CL:0000071 | blood vessel endothelial cell |
| CL:0000072 | non-branched duct epithelial cell |
| CL:0000073 | barrier epithelial cell |
| CL:0000075 | columnar/cuboidal epithelial cell |
| CL:0000076 | squamous epithelial cell |
| CL:0000077 | mesothelial cell |
| CL:0000078 | peridermal cell |
| CL:0000079 | stratified epithelial cell |
| CL:0000080 | circulating cell |
| CL:0000081 | blood cell |
| CL:0000082 | epithelial cell of lung |
| CL:0000083 | epithelial cell of pancreas |
| CL:0000084 | T cell |
| CL:0000085 | germ line stem cell (<i>sensu Vertebrata</i>) |
| CL:0000086 | germ line stem cell (<i>sensu Nematoda and Protostomia</i>) |
| CL:0000087 | male germ line stem cell (<i>sensu Nematoda and Protostomia</i>) |
| CL:0000088 | female germ line stem cell (<i>sensu Nematoda and Protostomia</i>) |
| CL:0000089 | male germ line stem cell (<i>sensu Vertebrata</i>) |
| CL:0000090 | female germ line stem cell (<i>sensu Vertebrata</i>) |
| CL:0000091 | Kupffer cell |
| CL:0000092 | osteoclast |
| CL:0000094 | granulocyte |
| CL:0000095 | neuron associated cell |
| CL:0000096 | mature neutrophil |
| CL:0000097 | mast cell |
| CL:0000098 | sensory epithelial cell |
| CL:0000099 | interneuron |
| CL:0000100 | motor neuron |
| CL:0000101 | sensory neuron |
| CL:0000102 | polymodal neuron |
| CL:0000103 | bipolar neuron |
| CL:0000104 | multipolar neuron |
| CL:0000105 | pseudounipolar neuron |
| CL:0000106 | unipolar neuron |
| CL:0000107 | autonomic neuron |
| CL:0000108 | cholinergic neuron |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0000109 | adrenergic neuron |
| CL:0000110 | peptidergic neuron |
| CL:0000111 | peripheral neuron |
| CL:0000112 | columnar neuron |
| CL:0000113 | mononuclear phagocyte |
| CL:0000114 | surface ectodermal cell |
| CL:0000115 | endothelial cell |
| CL:0000116 | pioneer neuron |
| CL:0000117 | CNS neuron (sensu Vertebrata) |
| CL:0000118 | basket cell |
| CL:0000119 | Golgi cell |
| CL:0000120 | granule cell |
| CL:0000121 | Purkinje cell |
| CL:0000122 | stellate cell |
| CL:0000123 | neuron associated cell (sensu Vertebrata) |
| CL:0000124 | glial cell (sensu Nematoda and Protostomia) |
| CL:0000125 | glial cell |
| CL:0000126 | macrogliial cell |
| CL:0000127 | astrocyte |
| CL:0000128 | oligodendrocyte |
| CL:0000129 | microglial cell |
| CL:0000130 | neuron associated cell (sensu Nematoda and Proto-stomia) |
| CL:0000131 | gut endothelial cell |
| CL:0000132 | corneal endothelial cell |
| CL:0000133 | neurectodermal cell |
| CL:0000134 | mesenchymal cell |
| CL:0000135 | fibrocyte |
| CL:0000136 | fat cell |
| CL:0000137 | osteocyte |
| CL:0000138 | chondrocyte |
| CL:0000140 | odontocyte |
| CL:0000141 | cementocyte |
| CL:0000142 | hyalocyte |
| CL:0000143 | guidepost cell |
| CL:0000145 | professional antigen presenting cell |
| CL:0000146 | simple columnar epithelial cell |
| CL:0000147 | pigment cell |
| CL:0000148 | melanocyte |
| CL:0000149 | visual pigment cell |
| CL:0000150 | glandular epithelial cell |
| CL:0000151 | secretory cell |
| CL:0000152 | exocrine cell |
| CL:0000153 | GAG secreting cell |
| CL:0000154 | protein secreting cell |
| CL:0000155 | peptic cell |
| CL:0000157 | surfactant secreting cell |
| CL:0000158 | Clara cell |
| CL:0000159 | seromucus secreting cell |
| CL:0000160 | goblet cell |
| CL:0000161 | acid secreting cell |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000162 | parietal cell |
| CL:0000163 | endocrine cell |
| CL:0000164 | enteroendocrine cell |
| CL:0000165 | neuroendocrine cell |
| CL:0000166 | chromaffin cell |
| CL:0000167 | peptide hormone secreting cell |
| CL:0000168 | insulin secreting cell |
| CL:0000169 | type B pancreatic cell |
| CL:0000170 | glucagon secreting cell |
| CL:0000171 | pancreatic A cell |
| CL:0000172 | somatostatin secreting cell |
| CL:0000173 | pancreatic D cell |
| CL:0000174 | steroid hormone secreting cell |
| CL:0000175 | luteal cell |
| CL:0000176 | ecdysteroid secreting cell |
| CL:0000177 | testosterone secreting cell |
| CL:0000178 | Leydig cell |
| CL:0000179 | progesterone secreting cell |
| CL:0000180 | estradiol secreting cell |
| CL:0000181 | metabolising cell |
| CL:0000182 | hepatocyte |
| CL:0000183 | contractile cell |
| CL:0000185 | myoepithelial cell |
| CL:0000186 | myofibroblast cell |
| CL:0000187 | muscle cell |
| CL:0000188 | skeletal muscle cell |
| CL:0000189 | slow muscle cell |
| CL:0000190 | fast muscle cell |
| CL:0000192 | smooth muscle cell |
| CL:0000193 | cardiac muscle cell (<i>sensu Arthropoda</i>) |
| CL:0000196 | flight muscle cell |
| CL:0000197 | receptor cell |
| CL:0000198 | pain receptor cell |
| CL:0000199 | mechanoreceptor cell |
| CL:0000200 | touch receptor cell |
| CL:0000202 | auditory hair cell |
| CL:0000203 | gravity sensitive cell |
| CL:0000204 | acceleration receptive cell |
| CL:0000205 | thermoreceptor cell |
| CL:0000206 | chemoreceptor cell |
| CL:0000207 | olfactory receptor cell |
| CL:0000208 | pH receptor cell |
| CL:0000209 | taste receptor cell |
| CL:0000210 | photoreceptor cell |
| CL:0000211 | electrically active cell |
| CL:0000212 | absorptive cell |
| CL:0000213 | lining cell |
| CL:0000214 | synovial cell |
| CL:0000215 | barrier cell |
| CL:0000216 | Sertoli cell |
| CL:0000217 | insulating cell |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0000218 | myelinating Schwann cell |
| CL:0000219 | motile cell |
| CL:0000221 | ectodermal cell |
| CL:0000222 | mesodermal cell |
| CL:0000223 | endodermal cell |
| CL:0000225 | anucleate cell |
| CL:0000226 | single nucleate cell |
| CL:0000227 | binucleate cell |
| CL:0000228 | multinucleate cell |
| CL:0000232 | erythrocyte |
| CL:0000233 | platelet |
| CL:0000234 | phagocyte |
| CL:0000235 | macrophage |
| CL:0000236 | B cell |
| CL:0000237 | keratinizing barrier epithelial cell |
| CL:0000238 | non keratinizing barrier epithelial cell |
| CL:0000239 | brush border epithelial cell |
| CL:0000240 | stratified squamous epithelial cell |
| CL:0000241 | stratified cuboidal epithelial cell |
| CL:0000242 | Merkel cell |
| CL:0000243 | glial cell (<i>sensu Vertebrata</i>) |
| CL:0000244 | transitional epithelial cell |
| CL:0000246 | Mauthner neuron |
| CL:0000247 | Rohon-Beard neuron |
| CL:0000249 | hatching gland cell |
| CL:0000251 | extramedullary cell |
| CL:0000253 | eurydendroid cell |
| CL:0000255 | eukaryotic cell |
| CL:0000256 | uric acid accumulating cell |
| CL:0000257 | Mycetozoan cell |
| CL:0000259 | aggregate cell |
| CL:0000261 | anterior cell |
| CL:0000263 | vegetative cell (<i>sensu Mycetozoa</i>) |
| CL:0000265 | anterior like cell |
| CL:0000267 | prespore cell |
| CL:0000269 | prestalk cell |
| CL:0000271 | prestalk A cell |
| CL:0000273 | prestalk AB cell |
| CL:0000275 | prestalk B cell |
| CL:0000279 | prestalk O cell |
| CL:0000281 | pstAB/ALC |
| CL:0000283 | pstO/ALC |
| CL:0000285 | stalk cell |
| CL:0000286 | hyphal cell |
| CL:0000287 | eye photoreceptor cell |
| CL:0000289 | chemotactic amoeboid cell (<i>sensu Mycetozoa</i>) |
| CL:0000291 | spore (<i>sensu Mycetozoa</i>) |
| CL:0000293 | structural cell |
| CL:0000295 | somatotropin secreting cell |
| CL:0000300 | gamete |
| CL:0000301 | pole cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000306 | crystallin accumulating cell |
| CL:0000307 | tracheal epithelial cell |
| CL:0000308 | metal ion accumulating cell |
| CL:0000309 | copper accumulating cell |
| CL:0000310 | iron accumulating cell |
| CL:0000311 | keratin accumulating cell |
| CL:0000312 | keratinocyte |
| CL:0000313 | serous secreting cell |
| CL:0000314 | milk secreting cell |
| CL:0000315 | tears secreting cell |
| CL:0000317 | sebum secreting cell |
| CL:0000318 | sweat secreting cell |
| CL:0000319 | mucus secreting cell |
| CL:0000321 | seminal fluid secreting cell |
| CL:0000322 | pneumocyte |
| CL:0000323 | lysozyme secreting cell |
| CL:0000324 | metanephric mesenchyme stem cell |
| CL:0000325 | stuff accumulating cell |
| CL:0000326 | glycogen accumulating cell |
| CL:0000327 | extracellular matrix secreting cell |
| CL:0000328 | myelin accumulating cell |
| CL:0000329 | oxygen accumulating cell |
| CL:0000333 | migratory neural crest cell |
| CL:0000334 | vegetative cell (sensu Fungi) |
| CL:0000335 | mesenchyme condensation cell |
| CL:0000336 | adrenal medulla chromaffin cell |
| CL:0000337 | neuroblast (sensu Vertebrata) |
| CL:0000338 | neuroblast (sensu Nematoda and Protostomia) |
| CL:0000339 | glioblast (sensu Vertebrata) |
| CL:0000340 | glioblast (sensu Nematoda and Protostomia) |
| CL:0000341 | pigment cell (sensu Nematoda and Protostomia) |
| CL:0000342 | pigment cell (sensu Vertebrata) |
| CL:0000343 | visual pigment cell (sensu Vertebrata) |
| CL:0000345 | dental papilla cell |
| CL:0000346 | hair follicle dermal papilla cell |
| CL:0000347 | scleral cell |
| CL:0000348 | choroidal cell of the eye |
| CL:0000349 | extraembryonic cell |
| CL:0000350 | amnioserosal cell |
| CL:0000351 | trophoblast cell |
| CL:0000352 | epiblast cell |
| CL:0000353 | blastoderm cell |
| CL:0000354 | blastemal cell |
| CL:0000355 | muscle stem cell |
| CL:0000356 | hair matrix stem cell |
| CL:0000357 | stratified epithelial stem cell |
| CL:0000358 | sphincter associated smooth muscle cell |
| CL:0000359 | vascular associated smooth muscle cell |
| CL:0000360 | morula cell |
| CL:0000361 | gastrula cell |
| CL:0000362 | epidermal cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000365 | zygote |
| CL:0000367 | sheath cell (sensu Nematoda) |
| CL:0000371 | protoplast |
| CL:0000372 | tormogen cell |
| CL:0000373 | histoblast |
| CL:0000374 | trichogen cell |
| CL:0000376 | humidity receptor cell |
| CL:0000377 | tracheoblast |
| CL:0000378 | support cell (sensu Nematoda and Protostomia) |
| CL:0000379 | sensory processing neuron |
| CL:0000380 | thecogen cell |
| CL:0000381 | neurosecretory neuron |
| CL:0000382 | scolopidium |
| CL:0000383 | nephrogenic mesenchyme stem cell |
| CL:0000384 | ligament cell |
| CL:0000385 | prohemocyte (sensu Nematoda and Protostomia) |
| CL:0000386 | attachment cell |
| CL:0000387 | hemocyte (sensu Nematoda and Protostomia) |
| CL:0000388 | tendon cell |
| CL:0000389 | socket cell (sensu Nematoda) |
| CL:0000390 | blood cell (sensu Nematoda and Protostomia) |
| CL:0000391 | podocyte (sensu Diptera) |
| CL:0000392 | crystal cell |
| CL:0000393 | electrically responsive cell |
| CL:0000394 | plasmacyte |
| CL:0000395 | procrysal cell |
| CL:0000396 | lamellocyte |
| CL:0000397 | ganglion interneuron |
| CL:0000398 | polygonal cell |
| CL:0000401 | macrophage (sensu Diptera) |
| CL:0000402 | CNS interneuron |
| CL:0000404 | electrically signaling cell |
| CL:0000405 | neuroepidermoblast |
| CL:0000406 | CNS short range interneuron |
| CL:0000407 | scolopidial ligament cell |
| CL:0000408 | male gamete |
| CL:0000409 | scolopidial sheath cell |
| CL:0000410 | CNS long range interneuron |
| CL:0000411 | flatworm hypodermal cell |
| CL:0000412 | polyploid cell |
| CL:0000413 | haploid cell |
| CL:0000415 | diploid cell |
| CL:0000416 | polytene cell |
| CL:0000417 | endopolyploid cell |
| CL:0000418 | arcade cell |
| CL:0000419 | seam cell |
| CL:0000420 | syncytial epithelial cell |
| CL:0000421 | coelomocyte |
| CL:0000422 | mitogenic signaling cell |
| CL:0000423 | tip cell |
| CL:0000424 | excretory cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0000425 | pore cell |
| CL:0000426 | scaffold cell |
| CL:0000427 | GLR cell |
| CL:0000428 | yolk cell |
| CL:0000429 | imaginal disc cell |
| CL:0000430 | xanthophore |
| CL:0000431 | iridophore |
| CL:0000432 | reticular cell |
| CL:0000434 | eccrine cell |
| CL:0000435 | alkali secreting cell |
| CL:0000436 | vaginal lubricant secreting cell |
| CL:0000437 | gonadtroph |
| CL:0000438 | luteinizing hormone secreting cell |
| CL:0000439 | prolactin secreting cell |
| CL:0000440 | melanocyte stimulating hormone secreting cell |
| CL:0000441 | follicle stem cell |
| CL:0000442 | follicular dendritic cell |
| CL:0000443 | calcitonin secreting cell |
| CL:0000444 | obliquely striated muscle cell |
| CL:0000445 | apoptosis fated cell |
| CL:0000446 | chief cell of parathyroid gland |
| CL:0000447 | carbohydrate secreting cell |
| CL:0000448 | white fat cell |
| CL:0000449 | brown fat cell |
| CL:0000451 | dendritic cell |
| CL:0000452 | thyroid hormone secreting cell |
| CL:0000453 | Langerhans cell |
| CL:0000454 | epinephrine secreting cell |
| CL:0000456 | mineralocorticoid secreting cell |
| CL:0000457 | biogenic amine secreting cell |
| CL:0000458 | serotonin secreting cell |
| CL:0000459 | norepinephrin secreting cell |
| CL:0000460 | glucocorticoid secreting cell |
| CL:0000462 | adepithelial cell |
| CL:0000463 | epidermal cell (sensu arthropoda) |
| CL:0000464 | epidermoblast |
| CL:0000465 | cardioblast (sensu Arthropoda) |
| CL:0000467 | adrenocorticotropic hormone secreting cell |
| CL:0000468 | neuroglioblast |
| CL:0000469 | ganglion mother cell |
| CL:0000470 | digestive enzyme secreting cell |
| CL:0000473 | defensive cell |
| CL:0000474 | pericardial nephrocyte |
| CL:0000476 | thyrotroph |
| CL:0000477 | follicle cell |
| CL:0000478 | oxytocin stimulating hormone secreting cell |
| CL:0000479 | vasopressin stimulating hormone secreting cell |
| CL:0000480 | secretin stimulating hormone secreting cell |
| CL:0000481 | cholecystokin stimulating hormone secreting cell |
| CL:0000482 | juvenile hormone secreting cell |
| CL:0000483 | bombesin stimulating hormone secreting cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000484 | connective tissue type mast cell |
| CL:0000485 | mucosal type mast cell |
| CL:0000486 | garland cell |
| CL:0000487 | oenocyte |
| CL:0000488 | visible light photoreceptor cell |
| CL:0000489 | scotopic photoreceptor cell |
| CL:0000490 | photopic photoreceptor cell |
| CL:0000492 | CD4-positive helper T cell |
| CL:0000494 | UV sensitive photoreceptor cell |
| CL:0000495 | blue sensitive photoreceptor cell |
| CL:0000496 | green sensitive photoreceptor cell |
| CL:0000497 | red sensitive photoreceptor cell |
| CL:0000498 | inhibitory interneuron |
| CL:0000499 | stromal cell |
| CL:0000500 | follicular epithelial cell |
| CL:0000501 | granulosa cell |
| CL:0000502 | type D enteroendocrine cell |
| CL:0000503 | theca cell |
| CL:0000504 | enterochromaffin-like cell |
| CL:0000505 | substance P secreting cell |
| CL:0000506 | enkephalin secreting cell |
| CL:0000507 | endorphin secreting cell |
| CL:0000508 | type G enteroendocrine cell |
| CL:0000509 | gastrin secreting cell |
| CL:0000510 | paneth cell |
| CL:0000511 | androgen binding protein secreting cell |
| CL:0000512 | paracrine cell |
| CL:0000513 | cardiac muscle myoblast |
| CL:0000514 | smooth muscle myoblast |
| CL:0000515 | skeletal muscle myoblast |
| CL:0000516 | perineuronal satellite cell |
| CL:0000517 | macrophage derived foam cell |
| CL:0000518 | phagocyte (<i>sensu Vertebrata</i>) |
| CL:0000519 | phagocyte (<i>sensu Nematoda and Protostomia</i>) |
| CL:0000520 | prokaryotic cell |
| CL:0000521 | fungus cell |
| CL:0000523 | mononuclear cytotrophoblast cell |
| CL:0000524 | spheroplast |
| CL:0000525 | syncytiotrophoblast cell |
| CL:0000526 | afferent neuron |
| CL:0000527 | efferent neuron |
| CL:0000528 | nitrogenic neuron |
| CL:0000529 | pigmented epithelial cell |
| CL:0000530 | primary neuron |
| CL:0000531 | primary sensory neuron |
| CL:0000532 | CAP motoneuron |
| CL:0000533 | primary motor neuron |
| CL:0000534 | primary interneuron |
| CL:0000535 | secondary neuron |
| CL:0000536 | secondary motor neuron |
| CL:0000540 | neuron |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0000541 | melanoblast |
| CL:0000542 | lymphocyte |
| CL:0000544 | slowly adapting mechanoreceptor cell |
| CL:0000545 | T-helper 1 cell |
| CL:0000546 | T-helper 2 cell |
| CL:0000547 | proerythroblast |
| CL:0000548 | animal cell |
| CL:0000549 | basophilic erythroblast |
| CL:0000550 | polychromatophilic erythroblast |
| CL:0000551 | unimodal nocireceptor |
| CL:0000552 | orthochromatic erythroblast |
| CL:0000553 | megakaryocyte progenitor cell |
| CL:0000554 | gastrin stimulating hormone secreting cell |
| CL:0000555 | neuronal brush cell |
| CL:0000556 | megakaryocyte |
| CL:0000557 | granulocyte monocyte progenitor cell |
| CL:0000558 | reticulocyte |
| CL:0000559 | promonocyte |
| CL:0000560 | band form neutrophil |
| CL:0000561 | amacrine cell |
| CL:0000562 | nucleate erythrocyte |
| CL:0000563 | endospore |
| CL:0000564 | neutrophilic promyelocyte |
| CL:0000565 | fat body cell |
| CL:0000566 | angioblastic mesenchymal cell |
| CL:0000567 | polymodal nocireceptor |
| CL:0000568 | APUD cell |
| CL:0000569 | cardiac mesenchymal cell |
| CL:0000570 | parafollicular cell |
| CL:0000571 | leucophore |
| CL:0000573 | retinal cone cell |
| CL:0000574 | erythrophore |
| CL:0000575 | corneal epithelial cell |
| CL:0000576 | monocyte |
| CL:0000577 | type EC enteroendocrine cell |
| CL:0000578 | experimentally modified cell in vitro |
| CL:0000579 | border follicle cell |
| CL:0000580 | neutrophilic myelocyte |
| CL:0000581 | peritoneal macrophage |
| CL:0000582 | neutrophilic metamyelocyte |
| CL:0000583 | alveolar macrophage |
| CL:0000584 | enterocyte |
| CL:0000586 | germ cell |
| CL:0000587 | cold sensing thermoreceptor cell |
| CL:0000588 | odontoclast |
| CL:0000589 | cochlear inner hair cell |
| CL:0000590 | small luteal cell |
| CL:0000591 | warmth sensing thermoreceptor cell |
| CL:0000592 | large luteal cell |
| CL:0000593 | androgen secreting cell |
| CL:0000594 | skeletal muscle satellite cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0000595 | enucleate erythrocyte |
| CL:0000596 | sexual spore |
| CL:0000597 | microconidium |
| CL:0000598 | pyramidal cell |
| CL:0000599 | conidium |
| CL:0000600 | heterokaryon |
| CL:0000601 | outer hair cell |
| CL:0000602 | pressoreceptor cell |
| CL:0000603 | dikaryon |
| CL:0000604 | retinal rod cell |
| CL:0000605 | fungus asexual spore |
| CL:0000606 | macroconidium |
| CL:0000607 | ascospore |
| CL:0000608 | zygospore |
| CL:0000609 | vestibular hair cell |
| CL:0000611 | eosinophil progenitor cell |
| CL:0000612 | eosinophilic myelocyte |
| CL:0000613 | basophil progenitor cell |
| CL:0000614 | basophilic myelocyte |
| CL:0000615 | basidiospore |
| CL:0000617 | GABAergic neuron |
| CL:0000618 | sheath cell |
| CL:0000619 | support cell (sensu Nematoda) |
| CL:0000621 | fusion competent myoblast |
| CL:0000622 | acinar cell |
| CL:0000623 | natural killer cell |
| CL:0000624 | CD4-positive, alpha-beta T cell |
| CL:0000625 | CD8-positive, alpha-beta T cell |
| CL:0000626 | olfactory granule cell |
| CL:0000627 | transporting cell |
| CL:0000628 | photosynthetic cell |
| CL:0000629 | storage cell |
| CL:0000630 | supportive cell |
| CL:0000631 | labyrinth supporting cell |
| CL:0000632 | hepatic stellate cell |
| CL:0000633 | Hensen cell |
| CL:0000634 | Claudius cell |
| CL:0000635 | Deiter's cell |
| CL:0000636 | Mueller cell |
| CL:0000637 | chromophil cell of anterior pituitary gland |
| CL:0000638 | acidophil cell of pars distalis of adenohypophysis |
| CL:0000639 | basophil cell of pars distalis of adenohypophysis |
| CL:0000641 | chromophobe cell |
| CL:0000642 | folliculostellate cell |
| CL:0000644 | Bergmann glial cell |
| CL:0000645 | pituicyte |
| CL:0000646 | basal cell |
| CL:0000647 | multinucleated giant cell |
| CL:0000648 | kidney granular cell |
| CL:0000649 | prickle cell |
| CL:0000650 | mesangial cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000651 | neck cell |
| CL:0000652 | pinealocyte |
| CL:0000653 | glomerular visceral epithelial cell |
| CL:0000654 | primary oocyte |
| CL:0000655 | secondary oocyte |
| CL:0000656 | primary spermatocyte |
| CL:0000657 | secondary spermatocyte |
| CL:0000658 | cuticle secreting cell |
| CL:0000659 | eggshell secreting cell |
| CL:0000660 | glycocalyx secreting cell |
| CL:0000661 | distal tip cell (<i>sensu Nematoda</i>) |
| CL:0000662 | neuroglioblast (<i>sensu Nematoda</i>) |
| CL:0000663 | valve cell |
| CL:0000664 | closable valve cell |
| CL:0000665 | permanently open valve cell |
| CL:0000666 | fenestrated cell |
| CL:0000667 | collagen secreting cell |
| CL:0000669 | pericyte cell |
| CL:0000670 | primordial germ cell |
| CL:0000671 | centripetally migrating follicle cell |
| CL:0000673 | Kenyon cell |
| CL:0000674 | interfollicle cell |
| CL:0000675 | female gamete |
| CL:0000676 | cap cell |
| CL:0000677 | gut absorptive cell |
| CL:0000678 | commisural neuron |
| CL:0000679 | glutamatergic neuron |
| CL:0000680 | muscle precursor cell |
| CL:0000681 | radial glial cell |
| CL:0000682 | M cell |
| CL:0000683 | ependymoglia cell |
| CL:0000684 | littoral cell of liver |
| CL:0000686 | cerebrospinal fluid secreting cell |
| CL:0000687 | R1 photoreceptor cell |
| CL:0000688 | perijunctional fibroblast |
| CL:0000689 | myoendocrine cell |
| CL:0000690 | R2 photoreceptor cell |
| CL:0000691 | stellate interneuron |
| CL:0000692 | terminal Schwann cell |
| CL:0000693 | neurogliaform cell |
| CL:0000694 | R3 photoreceptor cell |
| CL:0000695 | Cajal-Retzius cell |
| CL:0000696 | PP cell |
| CL:0000697 | R4 photoreceptor cell |
| CL:0000699 | paraganglial type 1 cell |
| CL:0000700 | dopaminergic neuron |
| CL:0000701 | paraganglia type 2 cell |
| CL:0000702 | R5 photoreceptor cell |
| CL:0000703 | sustentacular cell |
| CL:0000704 | endothelial tip cell |
| CL:0000705 | R6 photoreceptor cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000706 | choroid plexus epithelial cell |
| CL:0000707 | R7 photoreceptor cell |
| CL:0000708 | leptomeningeal cell |
| CL:0000709 | R8 photoreceptor cell |
| CL:0000710 | neurecto-epithelial cell |
| CL:0000711 | cumulus cell |
| CL:0000712 | stratum granulosum cell |
| CL:0000713 | corona radiata cell |
| CL:0000715 | embryonic crystal cell |
| CL:0000716 | lymph gland crystal cell |
| CL:0000717 | fusimotor neuron |
| CL:0000718 | cone cell (<i>sensu Endopterygota</i>) |
| CL:0000719 | posterior cone cell (<i>sensu Endopterygota</i>) |
| CL:0000720 | anterior cone cell (<i>sensu Endopterygota</i>) |
| CL:0000721 | equatorial cone cell (<i>sensu Endopterygota</i>) |
| CL:0000722 | cystoblast |
| CL:0000723 | somatic stem cell |
| CL:0000724 | heterocyst |
| CL:0000725 | nitrogen fixing cell |
| CL:0000726 | chlamydospore |
| CL:0000727 | primary pigment cell |
| CL:0000728 | secondary pigment cell |
| CL:0000729 | tertiary pigment cell |
| CL:0000730 | leading edge cell |
| CL:0000731 | urothelial cell |
| CL:0000732 | amoeboid cell |
| CL:0000733 | lymph gland plasmacyte |
| CL:0000734 | embryonic gland plasmacyte |
| CL:0000735 | lymph gland hemocyte |
| CL:0000736 | embryonic gland hemocyte |
| CL:0000737 | striated muscle cell |
| CL:0000738 | leukocyte |
| CL:0000740 | retinal ganglion cell |
| CL:0000741 | spinal accessory motor neuron |
| CL:0000742 | periarticular chondrocyte |
| CL:0000743 | hypertrophic chondrocyte |
| CL:0000744 | columnar chondrocyte |
| CL:0000745 | horizontal cell |
| CL:0000746 | cardiac muscle cell |
| CL:0000747 | cyanophore |
| CL:0000748 | retinal bipolar neuron |
| CL:0000749 | ON-bipolar cell |
| CL:0000750 | OFF-bipolar cell |
| CL:0000751 | rod bipolar cell |
| CL:0000752 | cone retinal bipolar cell |
| CL:0000753 | type 1 cone bipolar cell (<i>sensu Mus</i>) |
| CL:0000754 | type 2 cone bipolar cell (<i>sensu Mus</i>) |
| CL:0000755 | type 3 cone bipolar cell (<i>sensu Mus</i>) |
| CL:0000756 | type 4 cone bipolar cell (<i>sensu Mus</i>) |
| CL:0000757 | type 5 cone bipolar cell (<i>sensu Mus</i>) |
| CL:0000758 | type 6 cone bipolar cell (<i>sensu Mus</i>) |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0000759 | type 7 cone bipolar cell (sensu Mus) |
| CL:0000760 | type 8 cone bipolar cell (sensu Mus) |
| CL:0000761 | type 9 cone bipolar cell (sensu Mus) |
| CL:0000762 | nucleated thrombocyte |
| CL:0000763 | myeloid cell |
| CL:0000764 | erythroid lineage cell |
| CL:0000765 | erythroblast |
| CL:0000766 | myeloid leukocyte |
| CL:0000767 | basophil |
| CL:0000768 | immature basophil |
| CL:0000769 | basophilic metamyelocyte |
| CL:0000770 | band form basophil |
| CL:0000771 | eosinophil |
| CL:0000772 | immature eosinophil |
| CL:0000773 | eosinophilic metamyelocyte |
| CL:0000774 | band form eosinophil |
| CL:0000775 | neutrophil |
| CL:0000776 | immature neutrophil |
| CL:0000777 | mesangial phagocyte |
| CL:0000778 | mononuclear osteoclast |
| CL:0000779 | multinuclear osteoclast |
| CL:0000780 | multinuclear odontoclast |
| CL:0000781 | mononuclear odontoclast |
| CL:0000782 | myeloid dendritic cell |
| CL:0000783 | multinucleated phagocyte |
| CL:0000784 | plasmacytoid dendritic cell |
| CL:0000785 | mature B cell |
| CL:0000786 | plasma cell |
| CL:0000787 | memory B cell |
| CL:0000788 | naive B cell |
| CL:0000789 | alpha-beta T cell |
| CL:0000790 | immature alpha-beta T cell |
| CL:0000791 | mature alpha-beta T cell |
| CL:0000792 | CD4-positive, CD25-positive, alpha-beta regulatory T cell |
| CL:0000793 | CD4-positive, alpha-beta intraepithelial T cell |
| CL:0000794 | CD8-positive, alpha-beta cytotoxic T cell |
| CL:0000795 | CD8-positive, alpha-beta regulatory T cell |
| CL:0000796 | CD8-alpha-beta-positive, alpha-beta intraepithelial T cell |
| CL:0000797 | alpha-beta intraepithelial T cell |
| CL:0000798 | gamma-delta T cell |
| CL:0000799 | immature gamma-delta T cell |
| CL:0000800 | mature gamma-delta T cell |
| CL:0000801 | gamma-delta intraepithelial T cell |
| CL:0000802 | CD8-alpha alpha positive, gamma-delta intraepithelial T cell |
| CL:0000803 | CD4-negative CD8-negative gamma-delta intraepithelial T cell |
| CL:0000805 | immature single positive thymocyte |
| CL:0000806 | DN2 thymocyte |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000807 | DN3 thymocyte |
| CL:0000808 | DN4 thymocyte |
| CL:0000809 | double-positive, alpha-beta thymocyte |
| CL:0000810 | CD4-positive, alpha-beta thymocyte |
| CL:0000811 | CD8-positive, alpha-beta thymocyte |
| CL:0000813 | memory T cell |
| CL:0000814 | mature NK T cell |
| CL:0000815 | regulatory T cell |
| CL:0000816 | immature B cell |
| CL:0000817 | precursor B cell |
| CL:0000818 | transitional stage B cell |
| CL:0000819 | B-1 B cell |
| CL:0000820 | B-1a B cell |
| CL:0000821 | B-1b B cell |
| CL:0000822 | B-2 B cell |
| CL:0000823 | immature natural killer cell |
| CL:0000824 | mature natural killer cell |
| CL:0000825 | pro-NK cell |
| CL:0000826 | pro-B cell |
| CL:0000827 | pro-T cell |
| CL:0000828 | thromboblast |
| CL:0000829 | basophilic myeloblast |
| CL:0000830 | basophilic promyelocyte |
| CL:0000831 | mast cell progenitor |
| CL:0000832 | eosinophilic myeloblast |
| CL:0000833 | eosinophilic promyelocyte |
| CL:0000834 | neutrophil progenitor cell |
| CL:0000835 | myeloblast |
| CL:0000836 | promyelocyte |
| CL:0000837 | hematopoietic multipotent progenitor cell |
| CL:0000838 | lymphoid lineage restricted progenitor cell |
| CL:0000839 | myeloid lineage restricted progenitor cell |
| CL:0000840 | immature conventional dendritic cell |
| CL:0000841 | mature conventional dendritic cell |
| CL:0000842 | mononuclear cell |
| CL:0000843 | follicular B cell |
| CL:0000844 | germinal center B cell |
| CL:0000845 | marginal zone B cell |
| CL:0000846 | vestibular dark cell |
| CL:0000847 | ciliated olfactory receptor neuron |
| CL:0000848 | microvillous olfactory receptor neuron |
| CL:0000849 | crypt olfactory receptor neuron |
| CL:0000850 | serotonergic neuron |
| CL:0000851 | neuromast mantle cell |
| CL:0000852 | neuromast support cell |
| CL:0000853 | olfactory epithelial support cell |
| CL:0000854 | interneuromast cell |
| CL:0000855 | sensory hair cell |
| CL:0000856 | neuromast hair cell |
| CL:0000857 | slow muscle myoblast |
| CL:0000858 | fast muscle myoblast |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000860 | classical monocyte |
| CL:0000861 | elicited macrophage |
| CL:0000862 | suppressor macrophage |
| CL:0000863 | inflammatory macrophage |
| CL:0000864 | tissue-resident macrophage |
| CL:0000865 | gastrointestinal tract (lamina propria) macrophage |
| CL:0000866 | thymic macrophage |
| CL:0000867 | secondary lymphoid organ macrophage |
| CL:0000868 | lymph node macrophage |
| CL:0000869 | tonsillar macrophage |
| CL:0000870 | Peyer's patch macrophage |
| CL:0000871 | splenic macrophage |
| CL:0000872 | splenic marginal zone macrophage |
| CL:0000873 | splenic metallophilic macrophage |
| CL:0000874 | splenic red pulp macrophage |
| CL:0000875 | non-classical monocyte |
| CL:0000876 | splenic white pulp macrophage |
| CL:0000877 | splenic tingible body macrophage |
| CL:0000878 | central nervous system macrophage |
| CL:0000879 | meningeal macrophage |
| CL:0000880 | choroid-plexus macrophage |
| CL:0000881 | perivascular macrophage |
| CL:0000882 | thymic medullary macrophage |
| CL:0000883 | thymic cortical macrophage |
| CL:0000884 | mucosa-associated lymphoid tissue macrophage |
| CL:0000885 | gut-associated lymphoid tissue macrophage |
| CL:0000886 | nasal and bronchial associated lymphoid tissue macrophage |
| CL:0000887 | lymph node subcapsular sinus macrophage |
| CL:0000888 | lymph node tingible body macrophage |
| CL:0000889 | myeloid suppressor cell |
| CL:0000890 | alternatively activated macrophage |
| CL:0000891 | foam cell |
| CL:0000892 | smooth muscle cell derived foam cell |
| CL:0000893 | thymocyte |
| CL:0000894 | DN1 thymic pro-T cell |
| CL:0000895 | naive thymus-derived CD4-positive, alpha-beta T cell |
| CL:0000896 | activated CD4-positive, alpha-beta T cell |
| CL:0000897 | CD4-positive, alpha-beta memory T cell |
| CL:0000898 | naive T cell |
| CL:0000899 | T-helper 17 cell |
| CL:0000900 | naive thymus-derived CD8-positive, alpha-beta T cell |
| CL:0000901 | Tr1 cell |
| CL:0000902 | induced T-regulatory cell |
| CL:0000903 | natural T-regulatory cell |
| CL:0000904 | central memory CD4-positive, alpha-beta T cell |
| CL:0000905 | effector memory CD4-positive, alpha-beta T cell |
| CL:0000906 | activated CD8-positive, alpha-beta T cell |
| CL:0000907 | central memory CD8 positive, alpha-beta T cell |
| CL:0000908 | CD8-positive, alpha-beta cytokine secreting effector T cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0000909 | CD8-positive, alpha-beta memory T cell |
| CL:0000910 | cytotoxic T cell |
| CL:0000911 | effector T cell |
| CL:0000912 | helper T cell |
| CL:0000913 | effector memory CD8-positive, alpha-beta T cell |
| CL:0000914 | immature NK T cell |
| CL:0000915 | CD8-alpha-alpha-positive, alpha-beta intraepithelial T cell |
| CL:0000916 | dendritic epidermal T cell |
| CL:0000917 | Tc1 cell |
| CL:0000918 | Tc2 cell |
| CL:0000919 | CD8-positive, CD25-positive, alpha-beta regulatory T cell |
| CL:0000920 | CD8-positive, CD28-negative, alpha-beta regulatory T cell |
| CL:0000921 | type I NK T cell |
| CL:0000922 | type II NK T cell |
| CL:0000923 | CD4-positive type I NK T cell |
| CL:0000924 | CD4-negative, CD8-negative type I NK T cell |
| CL:0000925 | activated CD4-positive type I NK T cell |
| CL:0000926 | CD4-positive type I NK T cell secreting interferon-gamma |
| CL:0000927 | CD4-positive type I NK T cell secreting interleukin-4 |
| CL:0000928 | activated CD4-negative, CD8-negative type I NK T cell |
| CL:0000929 | CD4-negative, CD8-negative type I NK T cell secreting interferon-gamma |
| CL:0000930 | CD4-negative, CD8-negative type I NK T cell secreting interleukin-4 |
| CL:0000931 | activated type II NK T cell |
| CL:0000932 | type II NK T cell secreting interferon-gamma |
| CL:0000933 | type II NK T cell secreting interleukin-4 |
| CL:0000934 | CD4-positive, alpha-beta cytotoxic T cell |
| CL:0000935 | CD4-negative, CD8-negative, alpha-beta intraepithelial T cell |
| CL:0000936 | early lymphoid progenitor |
| CL:0000937 | pre-natural killer cell |
| CL:0000938 | CD56-bright cytokine secreting natural killer cell |
| CL:0000939 | cytotoxic CD56-dim natural killer cell |
| CL:0000940 | mucosal invariant T cell |
| CL:0000941 | thymic conventional dendritic cell |
| CL:0000942 | thymic plasmacytoid dendritic cell |
| CL:0000943 | Be1 Cell |
| CL:0000944 | Be2 cell |
| CL:0000945 | lymphocyte of B lineage |
| CL:0000946 | antibody secreting cell |
| CL:0000947 | IgE plasma cell |
| CL:0000948 | IgE memory B cell |
| CL:0000949 | IgD plasmablast |
| CL:0000950 | IgE plasmablast |
| CL:0000951 | IgE short lived plasma cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0000952 | preBCR-positive large pre-B-II cell |
| CL:0000953 | preBCR-negative large pre-B-II cell |
| CL:0000954 | small pre-B-II cell |
| CL:0000955 | pre-B-II cell |
| CL:0000956 | pre-B-I cell |
| CL:0000957 | large pre-B-II cell |
| CL:0000958 | T1 B cell |
| CL:0000959 | T2 B cell |
| CL:0000960 | T3 B cell |
| CL:0000961 | Bm1 B cell |
| CL:0000962 | Bm2 B cell |
| CL:0000963 | Bm3-delta B cell |
| CL:0000964 | Bm2' B cell |
| CL:0000965 | Bm3 B cell |
| CL:0000966 | Bm4 B cell |
| CL:0000967 | Bm5 B cell |
| CL:0000968 | Be cell |
| CL:0000969 | regulatory B cell |
| CL:0000970 | unswitched memory B cell |
| CL:0000971 | IgM memory B cell |
| CL:0000972 | class switched memory B cell |
| CL:0000973 | IgA memory B cell |
| CL:0000974 | long lived plasma cell |
| CL:0000975 | short lived plasma cell |
| CL:0000976 | IgA short lived plasma cell |
| CL:0000977 | IgG short lived plasma cell |
| CL:0000978 | IgM short lived plasma cell |
| CL:0000979 | IgG memory B cell |
| CL:0000980 | plasmablast |
| CL:0000981 | double negative memory B cell |
| CL:0000982 | IgG plasmablast |
| CL:0000983 | IgM plasmablast |
| CL:0000984 | IgA plasmablast |
| CL:0000985 | IgG plasma cell |
| CL:0000986 | IgM plasma cell |
| CL:0000987 | IgA plasma cell |
| CL:0000988 | hematopoietic cell |
| CL:0000989 | CD11c-low plasmacytoid dendritic cell |
| CL:0000990 | conventional dendritic cell |
| CL:0000991 | CD11c-negative plasmacytoid dendritic cell |
| CL:0000992 | immature CD11c-low plasmacytoid dendritic cell |
| CL:0000993 | mature CD11c-low plasmacytoid dendritic cell |
| CL:0000994 | immature CD11c-negative plasmacytoid dendritic cell |
| CL:0000995 | CD34-positive, CD38-positive common myeloid progenitor OR CD34-positive, CD38-positive common lymphoid progenitor |
| CL:0000996 | mature CD11c-negative plasmacytoid dendritic cell |
| CL:0000997 | immature CD8_alpha-negative CD11b-positive dendritic cell |
| CL:0000998 | CD8_alpha-negative CD11b-negative dendritic cell |
| CL:0000999 | CD4-positive CD11b-positive dendritic cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0001000 | CD8_alpha-positive CD11b-negative dendritic cell |
| CL:0001001 | immature CD8_alpha-negative CD11b-negative dendritic cell |
| CL:0001002 | mature CD8_alpha-negative CD11b-negative dendritic cell |
| CL:0001003 | mature CD8_alpha-negative CD11b-positive dendritic cell |
| CL:0001004 | immature CD8_alpha-positive CD11b-negative dendritic cell |
| CL:0001005 | mature CD8_alpha-positive CD11b-negative dendritic cell |
| CL:0001006 | dermal dendritic cell |
| CL:0001007 | interstitial dendritic cell |
| CL:0001008 | Kit and Sca1-positive hematopoietic stem cell |
| CL:0001009 | immature dermal dendritic cell |
| CL:0001010 | mature dermal dendritic cell |
| CL:0001011 | immature interstitial dendritic cell |
| CL:0001012 | CD7-negative lymphoid progenitor OR granulocyte monocyte progenitor |
| CL:0001013 | mature interstitial dendritic cell |
| CL:0001014 | CD1a-positive Langerhans cell |
| CL:0001015 | CD8_alpha-low Langerhans cell |
| CL:0001016 | immature CD1a-positive Langerhans cell |
| CL:0001017 | mature CD1a-positive Langerhans cell |
| CL:0001018 | immature CD8_alpha-low Langerhans cell |
| CL:0001019 | CD115-positive monocyte OR common dendritic progenitor |
| CL:0001020 | mature CD8_alpha-low Langerhans cell |
| CL:0001021 | CD34-positive, CD38-positive common lymphoid progenitor |
| CL:0001022 | CD115-positive monocyte |
| CL:0001023 | Kit-positive, CD34-positive common myeloid progenitor |
| CL:0001024 | CD34-positive, CD38-negative hematopoietic stem cell |
| CL:0001025 | Kit-positive, Sca1-positive common lymphoid progenitor |
| CL:0001026 | CD34-positive, CD38-positive common myeloid progenitor |
| CL:0001027 | CD7-negative lymphoid progenitor cell |
| CL:0001028 | CD7-positive lymphoid progenitor cell |
| CL:0001029 | common dendritic progenitor |
| CL:0001030 | CD117-positive common myeloid progenitor OR CD217-positive common lymphoid progenitor |
| CL:0001031 | cerebellar granule cell |
| CL:0001032 | cortical granule cell |
| CL:0001033 | hippocampal granule cell |
| CL:0001034 | cell in vitro |
| CL:0001035 | bone cell |
| CL:0001039 | terminally differentiated osteoblast |
| CL:0001040 | non-terminally differentiated osteoblast |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0001041 | CD8-positive, CXCR3-positive, alpha-beta regulatory T cell |
| CL:0001042 | T-helper 22 cell |
| CL:0001658 | visual pigment cell (<i>sensu</i> Nematoda and Protostomia) |
| CL:0002000 | Kit-positive erythroid progenitor cell |
| CL:0002001 | CD34-positive, CD38-positive granulocyte monocyte progenitor |
| CL:0002002 | Kit-positive granulocyte monocyte progenitor |
| CL:0002003 | CD34-positive, GlyA-negative erythroid progenitor cell |
| CL:0002004 | CD34-negative, GlyA-negative proerythroblast |
| CL:0002005 | CD34-positive, CD38-positive megakaryocyte erythroid progenitor cell |
| CL:0002006 | Kit-positive, CD34-negative megakaryocyte erythroid progenitor cell |
| CL:0002007 | Kit-low, CD34-positive eosinophil progenitor cell |
| CL:0002008 | CD34-positive, CD38-positive eosinophil progenitor cell |
| CL:0002009 | macrophage dendritic cell progenitor |
| CL:0002010 | pre-conventional dendritic cell |
| CL:0002011 | Kit-positive macrophage dendritic cell progenitor |
| CL:0002012 | Kit-low proerythroblast |
| CL:0002013 | GlyA-positive basophilic erythroblast |
| CL:0002014 | Kit-negative, Ly-76 high basophilic erythroblast |
| CL:0002015 | Kit-negative, Ly-76 high polychromatophilic erythroblast |
| CL:0002016 | CD71-low, GlyA-positive polychromatic erythroblast |
| CL:0002017 | Kit-negative, Ly-76 high orthochromatophilic erythroblasts |
| CL:0002018 | CD71-negative, GlyA-positive orthochromatic erythroblast |
| CL:0002019 | Ly-76 high reticulocyte |
| CL:0002020 | GlyA-positive reticulocytes |
| CL:0002021 | GlyA-positive erythrocyte |
| CL:0002022 | Ly-76 high positive erythrocyte |
| CL:0002023 | CD34-positive, CD41-positive, CD42-positive megakaryocyte progenitor cell |
| CL:0002024 | Kit-positive megakaryocyte progenitor cell |
| CL:0002025 | CD34-positive, CD41-positive, CD42-negative megakaryocyte progenitor cell |
| CL:0002026 | CD34-negative, CD41-positive, CD42-positive megakaryocyte cell |
| CL:0002027 | CD9-positive, CD41-positive megakaryocyte cell |
| CL:0002028 | basophil mast progenitor cell |
| CL:0002029 | Fc-epsilon R1alpha-low mast cell progenitor |
| CL:0002030 | Fc-epsilon R1alpha-high basophil progenitor cell |
| CL:0002031 | hematopoietic lineage restricted progenitor cell |
| CL:0002032 | hematopoietic oligopotent progenitor cell |
| CL:0002033 | short term hematopoietic stem cell |
| CL:0002034 | long term hematopoietic stem cell |
| CL:0002035 | Slamf1-negative multipotent progenitor cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002036 | Slamf1-positive multipotent progenitor cell |
| CL:0002037 | CD2-positive, CD5-positive, CD44-positive alpha-beta intraepithelial T cell |
| CL:0002038 | T follicular helper cell |
| CL:0002039 | immature NK T cell stage I |
| CL:0002040 | immature NK T cell stage II |
| CL:0002041 | immature NK T cell stage III |
| CL:0002042 | immature NK T cell stage IV |
| CL:0002043 | CD34-positive, CD38-negative multipotent progenitor cell |
| CL:0002044 | Kit-positive, integrin beta7-high basophil mast progenitor cell |
| CL:0002045 | Fraction A pre-pro B cell |
| CL:0002046 | early pro-B cell |
| CL:0002047 | Fraction B precursor B cell |
| CL:0002048 | late pro-B cell |
| CL:0002049 | Fraction C precursor B cell |
| CL:0002050 | Fraction C' precursor B cell |
| CL:0002051 | CD38-high pre-BCR positive cell |
| CL:0002052 | Fraction D precursor B cell |
| CL:0002053 | CD22-positive, CD38-low small pre-B cell |
| CL:0002054 | Fraction E immature B cell |
| CL:0002055 | CD38-negative immature B cell |
| CL:0002056 | Fraction F mature B cell |
| CL:0002057 | CD14-positive, CD16-negative classical monocyte |
| CL:0002058 | Gr1-low non-classical monocyte |
| CL:0002059 | CD8alpha-positive thymic conventional dendritic cell |
| CL:0002060 | melanophase |
| CL:0002061 | T-helper 9 cell |
| CL:0002062 | type I pneumocyte |
| CL:0002063 | type II pneumocyte |
| CL:0002064 | pancreatic acinar cell |
| CL:0002066 | Feyrter cell |
| CL:0002067 | type A enterocrine cell |
| CL:0002068 | Purkinje myocyte |
| CL:0002069 | type II vestibular sensory cell |
| CL:0002070 | type I vestibular sensory cell |
| CL:0002071 | enterocyte of epithelium of large intestine |
| CL:0002072 | nodal myocyte |
| CL:0002073 | transitional myocyte |
| CL:0002074 | myocardial endocrine cell |
| CL:0002075 | brush cell of tracheobronchial tree |
| CL:0002076 | endo-epithelial cell |
| CL:0002077 | ecto-epithelial cell |
| CL:0002078 | meso-epithelial cell |
| CL:0002079 | pancreatic ductal cell |
| CL:0002080 | pancreatic centro-acinar cell |
| CL:0002081 | type II cell of carotid body |
| CL:0002082 | type II cell of adrenal medulla |
| CL:0002083 | type I cell of adrenal medulla |
| CL:0002084 | Boettcher cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002085 | tanycyte |
| CL:0002086 | specialized cardiac myocyte |
| CL:0002087 | nongranular leukocyte |
| CL:0002088 | interstitial cell of Cajal |
| CL:0002089 | nuocyte |
| CL:0002090 | polar body |
| CL:0002091 | primary polar body |
| CL:0002092 | bone marrow cell |
| CL:0002093 | secondary polar body |
| CL:0002094 | interstitial cell of ovary |
| CL:0002095 | hilus cell of ovary |
| CL:0002096 | internodal tract myocyte |
| CL:0002097 | cortical cell of adrenal gland |
| CL:0002098 | regular cardiac myocyte |
| CL:0002099 | type I cell of adrenal cortex |
| CL:0002100 | regular interventricular cardiac myocyte |
| CL:0002101 | CD38-positive naive B cell |
| CL:0002102 | CD38-negative naive B cell |
| CL:0002103 | IgG-positive double negative memory B cell |
| CL:0002104 | IgG-negative double negative memory B cell |
| CL:0002105 | CD38-positive IgG memory B cell |
| CL:0002106 | IgD-positive CD38-positive IgG memory B cell |
| CL:0002107 | IgD-negative CD38-positive IgG memory B cell |
| CL:0002108 | CD38-negative IgG memory B cell |
| CL:0002109 | B220-positive CD38-positive naive B cell |
| CL:0002110 | B220-low CD38-positive naive B cell |
| CL:0002111 | CD38-negative unswitched memory B cell |
| CL:0002112 | B220-positive CD38-negative unswitched memory B cell |
| CL:0002113 | B220-low CD38-negative unswitched memory B cell |
| CL:0002114 | CD38-positive unswitched memory B cell |
| CL:0002115 | B220-positive CD38-positive unswitched memory B cell |
| CL:0002116 | B220-low CD38-positive unswitched memory B cell |
| CL:0002117 | IgG-negative class switched memory B cell |
| CL:0002118 | CD38-negative IgG-negative class switched memory B cell |
| CL:0002119 | CD38-positive IgG-negative class switched memory B cell |
| CL:0002120 | CD24-positive CD38-negative IgG-negative class switched memory B cell |
| CL:0002121 | CD24-negative CD38-negative IgG-negative class switched memory B cell |
| CL:0002122 | B220-positive CD38-positive IgG-negative class switched memory B cell |
| CL:0002123 | B220-low CD38-positive IgG-negative class switched memory B cell |
| CL:0002124 | CD27-positive gamma-delta T cell |
| CL:0002125 | CD27-negative gamma-delta T cell |
| CL:0002126 | CD25-positive, CD27-positive immature gamma-delta T cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002127 | innate effector T cell |
| CL:0002128 | Tc17 cell |
| CL:0002129 | regular atrial cardiac myocyte |
| CL:0002130 | regular interatrial cardiac myocyte |
| CL:0002131 | regular ventricular cardiac myocyte |
| CL:0002132 | stromal cell of ovary |
| CL:0002133 | stromal cell of ovarain cortex |
| CL:0002134 | stromal cell of ovarian medulla |
| CL:0002135 | nonkeratinized cell of epidermis |
| CL:0002136 | type II cell of adrenal cortex |
| CL:0002137 | type III cell of adrenal cortex |
| CL:0002138 | endothelial cell of lymphatic vessel |
| CL:0002139 | endothelial cell of vascular tree |
| CL:0002140 | acinar cell of sebaceous gland |
| CL:0002141 | active chief cell of parathyroid gland |
| CL:0002142 | dark cell of eccrine sweat gland |
| CL:0002143 | dark chief cell of parathyroid cell |
| CL:0002144 | capillary endothelial cell |
| CL:0002145 | ciliated columnar cell of tracheobronchial tree |
| CL:0002146 | clear cell of eccrine sweat gland |
| CL:0002147 | clear chief cell of parathyroid cell |
| CL:0002148 | dental pulp cell |
| CL:0002149 | epithelial cell of uterus |
| CL:0002150 | epithelioid macrophage |
| CL:0002151 | late promyelocyte |
| CL:0002152 | columnar cell of endocervix |
| CL:0002153 | corneocyte |
| CL:0002154 | early promyelocyte |
| CL:0002155 | echinocyte |
| CL:0002157 | endosteal cell |
| CL:0002158 | external epithelial cell of tympanic membrane |
| CL:0002159 | general ecto-epithelial cell |
| CL:0002160 | basal external epithelial cell of tympanic membrane |
| CL:0002161 | superficial external epithelial cell of tympanic membrane |
| CL:0002162 | internal epithelial cell of tympanic membrane |
| CL:0002163 | internal pillar cell of cochlea |
| CL:0002164 | external pillar cell of cochlea |
| CL:0002165 | phalangeal cell |
| CL:0002166 | epithelial cell of Malassez |
| CL:0002167 | olfactory epithelial cell |
| CL:0002168 | border cell of cochlea |
| CL:0002169 | basal cell of olfactory epithelium |
| CL:0002170 | keratinized cell of the oral mucosa |
| CL:0002171 | globose cell of olfactory epithelium |
| CL:0002172 | interdental cell of cochlea |
| CL:0002173 | extraglomerular mesangial cell |
| CL:0002174 | follicular cell of ovary |
| CL:0002175 | primary follicular cell of ovary |
| CL:0002176 | secondary follicular cell of ovary |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0002177 | folliculostellate cell of pars distalis of adenohypophysis |
| CL:0002178 | epithelial cell of stomach |
| CL:0002179 | foveolar cell of stomach |
| CL:0002180 | mucous cell of stomach |
| CL:0002181 | mucus neck cell of gastric gland |
| CL:0002182 | surface mucosal cell of stomach |
| CL:0002183 | stem cell of gastric gland |
| CL:0002184 | basal proper cell of olfactory epithelium |
| CL:0002187 | basal cell of epidermis |
| CL:0002188 | glomerular endothelial cell |
| CL:0002189 | granular cell of epidermis |
| CL:0002190 | squamous cell of epidermis |
| CL:0002191 | granulocytopoietic cell |
| CL:0002192 | metamyelocyte |
| CL:0002193 | myelocyte |
| CL:0002194 | monopoietic cell |
| CL:0002195 | hepatic stem cell |
| CL:0002196 | hepatic oval stem cell |
| CL:0002197 | inactive chief cell of parathyroid gland |
| CL:0002198 | oncocyte |
| CL:0002199 | oxyphil cell of parathyroid gland |
| CL:0002200 | oxyphil cell of thyroid |
| CL:0002201 | renal beta-intercalated cell |
| CL:0002202 | epithelial cell of tracheobronchial tree |
| CL:0002203 | Brush cell of epithelium proper of large intestine |
| CL:0002204 | brush cell |
| CL:0002205 | brush cell of lobular bronchiole |
| CL:0002206 | brush cell of terminal bronchiole |
| CL:0002207 | brush cell of trachea |
| CL:0002208 | brush cell of bronchus |
| CL:0002209 | intermediate epitheliocyte |
| CL:0002210 | red muscle cell |
| CL:0002211 | type I muscle cell |
| CL:0002212 | type II muscle cell |
| CL:0002213 | white muscle cell |
| CL:0002214 | type IIa muscle cell |
| CL:0002215 | type IIb muscle cell |
| CL:0002216 | intermediate muscle cell |
| CL:0002217 | intermediate trophoblast |
| CL:0002218 | immature dendritic epithelial T cell precursor |
| CL:0002219 | anchoring trophoblasts |
| CL:0002220 | interstitial cell of pineal gland |
| CL:0002221 | keratinized squamous cell of esophagus |
| CL:0002222 | vertebrate lens cell |
| CL:0002223 | anterior lens cell |
| CL:0002224 | lens epithelial cell |
| CL:0002225 | secondary lens fiber |
| CL:0002226 | non-nucleated secondary lens fiber |
| CL:0002227 | nucleated secondary lens fiber |
| CL:0002228 | primary lens fiber |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0002229 | light chief cell of parathyroid gland |
| CL:0002231 | epithelial cell of prostate |
| CL:0002232 | epithelial cell of prostatic duct |
| CL:0002233 | epithelial cell of prostatic acinus |
| CL:0002234 | basal cell of prostatic acinus |
| CL:0002235 | luminal cell of prostatic acinus |
| CL:0002236 | basal epithelial cell of prostatic duct |
| CL:0002237 | luminal epithelial cell of prostatic duct |
| CL:0002238 | male gonocyte |
| CL:0002239 | ooblast |
| CL:0002240 | marrow fibroblast |
| CL:0002241 | pulmonary interstitial fibroblast |
| CL:0002242 | nucleate cell |
| CL:0002243 | smooth muscle cell of sphincter of pupil |
| CL:0002244 | squamous cell of ectocervix |
| CL:0002246 | peripheral blood stem cell |
| CL:0002247 | pleural macrophage |
| CL:0002248 | pluripotent stem cell |
| CL:0002249 | primitive cardiac myocyte |
| CL:0002250 | intestinal crypt stem cell |
| CL:0002251 | epithelial cell of alimentary canal |
| CL:0002252 | epithelial cell of esophagus |
| CL:0002253 | epithelial cell of large intestine |
| CL:0002254 | epithelial cell of small intestine |
| CL:0002255 | stromal cell of endometrium |
| CL:0002256 | supporting cell of carotid body |
| CL:0002257 | epithelial cell of thyroid gland |
| CL:0002258 | thyroid follicular cell |
| CL:0002259 | neuroepithelial stem cell |
| CL:0002260 | epithelial cell of parathyroid gland |
| CL:0002261 | endothelial cell of viscerocranial mucosa |
| CL:0002262 | endothelial cell of sinusoid |
| CL:0002263 | transitional cell of parathyroid gland |
| CL:0002264 | type A cell of stomach |
| CL:0002265 | type D cell of colon |
| CL:0002266 | type D cell of small intestine |
| CL:0002267 | type D cell of stomach |
| CL:0002268 | P/D1 enteroendocrine cell |
| CL:0002269 | vasoactive intestinal peptide secreting cell |
| CL:0002270 | type EC2 enteroendocrine cell |
| CL:0002271 | type EC1 enteroendocrine cell |
| CL:0002272 | motilin secreting cell |
| CL:0002273 | type ECL enteroendocrine cell |
| CL:0002274 | histamine secreting cell |
| CL:0002275 | pancreatic PP cell |
| CL:0002277 | type I enteroendocrine cell |
| CL:0002278 | GIP cell |
| CL:0002279 | type L enteroendocrine cell |
| CL:0002280 | type N enteroendocrine cell |
| CL:0002281 | type S enteroendocrine cell |
| CL:0002282 | type TG enteroendocrine cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002283 | ecto-epithelial cell of viscerocranial mucosa |
| CL:0002284 | type X enteroendocrine cell |
| CL:0002285 | type III taste bud cell |
| CL:0002286 | type II taste cell |
| CL:0002287 | type IV taste receptor cell |
| CL:0002288 | type V taste receptor cell |
| CL:0002289 | type I taste bud cell |
| CL:0002290 | Y chromosome-bearing sperm cell |
| CL:0002291 | X chromosome-bearing sperm cell |
| CL:0002292 | type I cell of carotid body |
| CL:0002293 | epithelial cell of thymus |
| CL:0002294 | type-1 epithelial cell of thymus |
| CL:0002295 | type-6 epithelial cell of thymus |
| CL:0002296 | type-4 epithelial cell of thymus |
| CL:0002297 | type-3 epithelial cell of thymus |
| CL:0002298 | type-5 epithelial cell of thymus |
| CL:0002299 | type-2 epithelial cell of thymus |
| CL:0002300 | type-7 epithelial cell of thymus |
| CL:0002301 | type B synovial cell |
| CL:0002302 | type A synovial cell |
| CL:0002303 | pigmented ciliary epithelial cell |
| CL:0002304 | non-pigmented ciliary epithelial cell |
| CL:0002305 | epithelial cell of distal tubule |
| CL:0002306 | epithelial cell of proximal tubule |
| CL:0002307 | brush border cell of the proximal tubule |
| CL:0002308 | epithelial cell of skin gland |
| CL:0002309 | corticotroph |
| CL:0002310 | mammosomatotroph |
| CL:0002311 | mammotroph |
| CL:0002312 | somatotroph |
| CL:0002313 | endocrine-paracrine cell of prostate gland |
| CL:0002314 | external supporting cell of vestibular epithelium |
| CL:0002315 | supporting cell of cochlea |
| CL:0002316 | supporting cell of vestibular epithelium |
| CL:0002317 | external limiting cell of vestibular epithelium |
| CL:0002318 | peripheral blood mesothelial cell |
| CL:0002319 | neural cell |
| CL:0002320 | connective tissue cell |
| CL:0002321 | embryonic cell |
| CL:0002322 | embryonic stem cell |
| CL:0002323 | amniocyte |
| CL:0002324 | myoepithelial cell of mammary gland |
| CL:0002325 | mammary alveolar cell |
| CL:0002326 | luminal epithelial cell of mammary gland |
| CL:0002327 | mammary epithelial cell |
| CL:0002328 | bronchial epithelial cell |
| CL:0002329 | basal epithelial cell of tracheobronchial tree |
| CL:0002330 | undifferentiated cell of bronchus epithelium |
| CL:0002332 | ciliated cell of the bronchus |
| CL:0002333 | neural crest derived fat cell |
| CL:0002334 | preadipocyte |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0002335 | brown preadipocyte |
| CL:0002336 | buccal mucosa cell |
| CL:0002337 | keratinocyte stem cell |
| CL:0002338 | CD56-positive, CD161-positive immature natural killer cell |
| CL:0002339 | prostate stem cell |
| CL:0002340 | luminal cell of prostate epithelium |
| CL:0002341 | basal cell of prostate epithelium |
| CL:0002342 | circulating endothelial cell |
| CL:0002343 | decidual natural killer cell |
| CL:0002344 | CD56-negative, CD161-positive immature natural killer cell |
| CL:0002345 | CD27-low, CD11b-low immature natural killer cell |
| CL:0002346 | Dx5-negative, NK1.1-positive immature natural killer cell |
| CL:0002347 | CD27-high, CD11b-high natural killer cell |
| CL:0002348 | CD27-low, CD11b-high natural killer cell |
| CL:0002349 | CD27-high, CD11b-low natural killer cell |
| CL:0002350 | endocardial cell |
| CL:0002351 | progenitor cell of endocrine pancreas |
| CL:0002352 | gestational hematopoietic stem cell |
| CL:0002353 | fetal liver hematopoietic progenitor cell |
| CL:0002354 | yolk sac hematopoietic stem cell |
| CL:0002355 | primitive red blood cell |
| CL:0002356 | primitive reticulocyte |
| CL:0002357 | fetal derived definitive erythrocyte |
| CL:0002358 | pyrenocyte |
| CL:0002359 | placental hematopoietic stem cell |
| CL:0002360 | AGM hematopoietic stem cell |
| CL:0002361 | primitive erythroid progenitor |
| CL:0002362 | granule cell precursor |
| CL:0002363 | keratocyte |
| CL:0002364 | cortical thymic epithelial cell |
| CL:0002365 | medullary thymic epithelial cell |
| CL:0002366 | myometrial cell |
| CL:0002367 | trabecular meshwork cell |
| CL:0002368 | respiratory epithelial cell |
| CL:0002369 | fungal spore |
| CL:0002370 | respiratory goblet cell |
| CL:0002371 | somatic cell |
| CL:0002372 | myotube |
| CL:0002373 | growth hormone releasing hormone secreting cell |
| CL:0002374 | ear hair cell |
| CL:0002375 | Schwann cell precursor |
| CL:0002376 | non-myelinating Schwann cell |
| CL:0002377 | immature Schwann cell |
| CL:0002378 | immature Vgamma2-positive fetal thymocyte |
| CL:0002379 | meningothelial cell |
| CL:0002380 | oospore |
| CL:0002381 | uninucleate conidium |
| CL:0002382 | multinucleate conidium |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002383 | conidium of conidiophore head |
| CL:0002384 | uninucleate macroconidium |
| CL:0002385 | blastoconidium |
| CL:0002386 | multinucleate macroconidium |
| CL:0002387 | arthroconidium |
| CL:0002388 | multinucleate arthroconidium |
| CL:0002389 | uninucleate arthroconidium |
| CL:0002390 | uninucleate blastconidium |
| CL:0002391 | multinucleate blastoconidium |
| CL:0002393 | intermediate monocyte |
| CL:0002394 | CD141-positive myeloid dendritic cell |
| CL:0002395 | Gr1-high classical monocyte |
| CL:0002396 | CD14-low, CD16-positive monocyte |
| CL:0002397 | CD14-positive, CD16-positive monocyte |
| CL:0002398 | Gr1-positive, CD43-positive monocyte |
| CL:0002399 | CD1c-positive myeloid dendritic cell |
| CL:0002400 | Fraction B/C precursor B cell |
| CL:0002401 | mature dendritic epithelial T cell precursor |
| CL:0002402 | Peyer's patch B cell |
| CL:0002403 | mature Vgamma2-positive fetal thymocyte |
| CL:0002404 | fetal thymocyte |
| CL:0002405 | gamma-delta thymocyte |
| CL:0002406 | immature Vgamma2-positive thymocyte |
| CL:0002407 | mature Vgamma2-positive thymocyte |
| CL:0002408 | immature Vgamma2-negative thymocyte |
| CL:0002409 | mature Vgamma2-negative thymocyte |
| CL:0002410 | pancreatic stellate cell |
| CL:0002411 | Vgamma1.1-positive, Vdelta6.3-negative thymocyte |
| CL:0002412 | Vgamma1.1-positive, Vdelta6.3-positive thymocyte |
| CL:0002413 | mature Vgamma1.1-positive, Vdelta6.3-negative thymocyte |
| CL:0002414 | immature Vgamma1.1-positive, Vdelta6.3-negative thymocyte |
| CL:0002415 | immature Vgamma1.1-positive, Vdelta6.3-positive thymocyte |
| CL:0002416 | mature Vgamma1.1-positive, Vdelta6.3-positive thymocyte |
| CL:0002417 | primitive erythroid lineage cell |
| CL:0002418 | hemangioblast |
| CL:0002419 | mature T cell |
| CL:0002420 | immature T cell |
| CL:0002421 | nucleated reticulocyte |
| CL:0002422 | enucleated reticulocyte |
| CL:0002423 | DN2a thymocyte |
| CL:0002424 | DN2b thymocyte |
| CL:0002425 | early T lineage precursor |
| CL:0002426 | CD11b-positive, CD27-positive natural killer cell |
| CL:0002427 | resting double-positive thymocyte |
| CL:0002428 | double-positive blast |
| CL:0002429 | CD69-positive double-positive thymocyte |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002430 | CD4-intermediate, CD8-positive double-positive thymocyte |
| CL:0002431 | CD4-positive, CD8-intermediate double-positive thymocyte |
| CL:0002432 | CD24-positive, CD4 single-positive thymocyte |
| CL:0002433 | CD69-positive, CD4-positive single-positive thymocyte |
| CL:0002434 | CD24-positive, CD8 single-positive thymocyte |
| CL:0002435 | CD69-positive, CD8-positive single-positive thymocyte |
| CL:0002436 | mature CD4 single-positive thymocyte |
| CL:0002437 | mature CD8 single-positive thymocyte |
| CL:0002438 | NK1.1-positive natural killer cell |
| CL:0002439 | NKG2A-positive natural killer cell |
| CL:0002440 | Ly49D-positive natural killer cell |
| CL:0002441 | CD94-positive natural killer cell |
| CL:0002442 | CD94-negative, Ly49Cl-negative natural killer cell |
| CL:0002443 | Ly49Cl-positive natural killer cell |
| CL:0002444 | Ly49H-positive natural killer cell |
| CL:0002445 | Ly49D-negative natural killer cell |
| CL:0002446 | Ly49Cl-negative natural killer cell |
| CL:0002447 | CD94-negative natural killer cell |
| CL:0002448 | Ly49H-negative natural killer cell |
| CL:0002449 | CD94-positive Ly49Cl-positive natural killer cell |
| CL:0002450 | tether cell |
| CL:0002451 | mammary stem cell |
| CL:0002453 | oligodendrocyte precursor cell |
| CL:0002454 | Cd4-negative, CD8_alpha-negative, CD11b-positive dendritic cell |
| CL:0002455 | CD8_alpha-negative plasmacytoid dendritic cell |
| CL:0002456 | CD8_alpha-positive plasmacytoid dendritic cell |
| CL:0002457 | epidermal Langerhans cell |
| CL:0002458 | langerin-positive dermal dendritic cell |
| CL:0002459 | langerin-negative dermal dendritic cell |
| CL:0002460 | CD8alpha-negative thymic conventional dendritic cell |
| CL:0002461 | CD103-positive dendritic cell |
| CL:0002462 | adipose dendritic cell |
| CL:0002463 | SIRPa-positive adipose dendritic cell |
| CL:0002464 | SIRPa-negative adipose dendritic cell |
| CL:0002465 | CD11b-positive dendritic cell |
| CL:0002466 | small intestine serosal dendritic cell |
| CL:0002467 | Gr1-high myeloid suppressor cell |
| CL:0002468 | Gr1-low myeloid suppressor cell |
| CL:0002469 | MHC-II-negative classical monocyte |
| CL:0002470 | MHC-II-positive classical monocyte |
| CL:0002471 | MHC-II-negative non-classical monocyte |
| CL:0002472 | MHC-II-low non-classical monocyte |
| CL:0002473 | MHC-II-high non-classical monocyte |
| CL:0002474 | lymphoid MHC-II-negative classical monocyte |
| CL:0002475 | lymphoid MHC-II-negative non-classical monocyte |
| CL:0002476 | bone marrow macrophage |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002477 | adipose macrophage |
| CL:0002478 | F4/80-negative adipose macrophage |
| CL:0002479 | F4/80-positive adipose macrophage |
| CL:0002480 | nasal mucosa goblet cell |
| CL:0002481 | peritubular myoid cell |
| CL:0002482 | dermal melanocyte |
| CL:0002483 | hair follicle melanocyte |
| CL:0002484 | epithelial melanocyte |
| CL:0002485 | retinal melanocyte |
| CL:0002486 | strial intermediate cell |
| CL:0002487 | cutaneous/subcutaneous mechanoreceptor cell |
| CL:0002488 | trophoblast giant cell |
| CL:0002489 | double negative thymocyte |
| CL:0002490 | organ of Corti supporting cell |
| CL:0002491 | auditory epithelial cell |
| CL:0002492 | strial marginal cell |
| CL:0002493 | strial basal cell |
| CL:0002494 | cardiocyte |
| CL:0002495 | fetal cardiomyocyte |
| CL:0002496 | intraepithelial lymphocyte |
| CL:0002497 | primary trophoblast giant cell |
| CL:0002498 | secondary trophoblast giant cell |
| CL:0002499 | spongiotrophoblast cell |
| CL:0002500 | P enteroendocrine cell |
| CL:0002501 | type D1 enteroendocrine cell |
| CL:0002502 | type M enteroendocrine cell |
| CL:0002503 | adventitial cell |
| CL:0002504 | enteric smooth muscle cell |
| CL:0002505 | liver CD103-negative dendritic cell |
| CL:0002506 | liver CD103-positive dendritic cell |
| CL:0002507 | langerin-positive lymph node dendritic cell |
| CL:0002508 | langerin-negative, CD103-negative lymph node dendritic cell |
| CL:0002509 | CD103-positive, langerin-positive lymph node dendritic cell |
| CL:0002510 | CD103-negative, langerin-positive lymph node dendritic cell |
| CL:0002511 | CD11b-low, CD103-negative, langerin-negative lymph node dendritic cell |
| CL:0002512 | CD11b-high, CD103-negative, langerin-negative lymph node dendritic cell |
| CL:0002513 | Vgamma5-positive CD8alpha alpha positive gamma-delta intraepithelial T cell |
| CL:0002514 | Vgamma5-negative CD8alpha alpha positive gamma-delta intraepithelial T cell |
| CL:0002515 | interrenal norepinephrine type cell |
| CL:0002516 | interrenal chromaffin cell |
| CL:0002517 | interrenal epinephrin secreting cell |
| CL:0002518 | kidney epithelial cell |
| CL:0002519 | interrenal epithelial cell |
| CL:0002520 | nephrocyte |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0002521 | subcutaneous fat cell |
| CL:0002522 | renal filtration cell |
| CL:0002523 | mesonephric glomerular visceral epithelial cell |
| CL:0002524 | disseminated nephrocyte |
| CL:0002525 | metanephric glomerular visceral epithelial cell |
| CL:0002526 | CD14-positive dermal dendritic cell |
| CL:0002527 | immature CD14-positive dermal dendritic cell |
| CL:0002528 | mature CD14-positive dermal dendritic cell |
| CL:0002529 | CD1a-positive dermal dendritic cell |
| CL:0002530 | immature CD1a-positive dermal dendritic cell |
| CL:0002531 | mature CD1a-positive dermal dendritic cell |
| CL:0002532 | CD16-positive myeloid dendritic cell |
| CL:0002533 | immature CD16-positive myeloid dendritic cell |
| CL:0002534 | mature CD16-positive myeloid dendritic cell |
| CL:0002535 | epithelial cell of cervix |
| CL:0002536 | amniotic epithelial cell |
| CL:0002537 | amnion mesenchymal stem cell |
| CL:0002538 | intrahepatic bile duct epithelial cell |
| CL:0002539 | aortic smooth muscle cell |
| CL:0002540 | mesenchymal stem cell of the bone marrow |
| CL:0002541 | chorionic membrane mesenchymal stem cell |
| CL:0002543 | vein endothelial cell |
| CL:0002544 | aortic endothelial cell |
| CL:0002545 | thoracic aorta endothelial cell |
| CL:0002546 | embryonic blood vessel endothelial progenitor cell |
| CL:0002547 | fibroblast of the aortic adventitia |
| CL:0002548 | cardiac fibroblast |
| CL:0002549 | fibroblast of choroid plexus |
| CL:0002550 | fibroblast of the conjunctiva |
| CL:0002551 | fibroblast of dermis |
| CL:0002552 | fibroblast of gingiva |
| CL:0002553 | fibroblast of lung |
| CL:0002554 | fibroblast of lymphatic vessel |
| CL:0002555 | fibroblast of mammary gland |
| CL:0002556 | fibroblast of periodontium |
| CL:0002557 | fibroblast of pulmonary artery |
| CL:0002558 | fibroblast of villous mesenchymal |
| CL:0002559 | hair follicle cell |
| CL:0002560 | inner root sheath cell |
| CL:0002561 | outer root sheath cell |
| CL:0002562 | hair germinal matrix cell |
| CL:0002563 | intestinal epithelial cell |
| CL:0002564 | nucleus pulposus cell of intervertebral disc |
| CL:0002565 | iris pigment epithelial cell |
| CL:0002566 | dark melanocyte |
| CL:0002567 | light melanocyte |
| CL:0002568 | mesenchymal stem cell of Wharton's jelly |
| CL:0002569 | mesenchymal stem cell of umbilical cord |
| CL:0002570 | mesenchymal stem cell of adipose |
| CL:0002571 | hepatic mesenchymal stem cell |
| CL:0002572 | vertebral mesenchymal stem cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002573 | Schwann cell |
| CL:0002574 | stromal cell of pancreas |
| CL:0002575 | central nervous system pericyte |
| CL:0002576 | perineural cell |
| CL:0002577 | placental epithelial cell |
| CL:0002578 | mesenteric preadipocyte |
| CL:0002579 | omentum preadipocyte |
| CL:0002580 | preadipocyte of the breast |
| CL:0002581 | perirenal preadipocyte |
| CL:0002582 | visceral preadipocyte |
| CL:0002583 | subcutaneous preadipocyte |
| CL:0002584 | renal cortical epithelial cell |
| CL:0002585 | retinal blood vessel endothelial cell |
| CL:0002586 | retinal pigment epithelial cell |
| CL:0002588 | smooth muscle cell of the umbilical vein |
| CL:0002589 | smooth muscle cell of the brachiocephalic vasculature |
| CL:0002590 | smooth muscle cell of the brain vasculature |
| CL:0002591 | smooth muscle cell of the pulmonary artery |
| CL:0002592 | smooth muscle cell of the coronary artery |
| CL:0002593 | smooth muscle cell of the internal thoracic artery |
| CL:0002594 | smooth muscle cell of the umbilical artery |
| CL:0002595 | smooth muscle cell of the subclavian artery |
| CL:0002596 | smooth muscle cell of the carotid artery |
| CL:0002597 | smooth muscle cell of bladder |
| CL:0002598 | bronchial smooth muscle cell |
| CL:0002599 | smooth muscle cell of the esophagus |
| CL:0002600 | smooth muscle cell of trachea |
| CL:0002601 | uterine smooth muscle cell |
| CL:0002602 | annulus pulposus cell |
| CL:0002603 | astrocyte of the cerebellum |
| CL:0002604 | astrocyte of the hippocampus |
| CL:0002605 | astrocyte of the cerebral cortex |
| CL:0002606 | astrocyte of the spinal cord |
| CL:0002607 | migratory enteric neural crest cell |
| CL:0002608 | hippocampal neuron |
| CL:0002609 | neuron of cerebral cortex |
| CL:0002610 | raphe nuclei neuron |
| CL:0002611 | neuron of the dorsal spinal cord |
| CL:0002612 | neuron of the ventral spinal cord |
| CL:0002613 | striatum neuron |
| CL:0002614 | neuron of the substantia nigra |
| CL:0002615 | adipocyte of omentum tissue |
| CL:0002616 | perirenal adipocyte cell |
| CL:0002617 | adipocyte of breast |
| CL:0002618 | endothelial cell of umbilical vein |
| CL:0002619 | adult endothelial progenitor cell |
| CL:0002620 | skin fibroblast |
| CL:0002621 | gingival epithelial cell |
| CL:0002622 | prostate stromal cell |
| CL:0002623 | acinar cell of salivary gland |
| CL:0002624 | paneth cell of the appendix |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0002625 | seminiferous tubule epithelial cell |
| CL:0002626 | immature astrocyte |
| CL:0002627 | mature astrocyte |
| CL:0002628 | immature microglial cell |
| CL:0002629 | mature microglial cell |
| CL:0002630 | actinomycete-type spore |
| CL:0002631 | epithelial cell of upper respiratory tract |
| CL:0002632 | epithelial cell of lower respiratory tract |
| CL:0002633 | respiratory basal cell |
| CL:0002634 | epithelial cell of anal column |
| CL:0002635 | nonkeratinized epithelial cell of anal column |
| CL:0002636 | nonkeratinized epithelial cell of inferior part of anal canal |
| CL:0002637 | keratinized epithelial cell of the anal canal |
| CL:0002638 | bronchioalveolar stem cell |
| CL:0002639 | amniotic stem cell |
| CL:0002640 | amniotic epithelial stem cell |
| CL:0002641 | epithelial cell of esophageal gland proper |
| CL:0002642 | epithelial cell of esophageal cardiac gland |
| CL:0002643 | nonkeratinized cell of stratum corneum of esophageal epithelium |
| CL:0002644 | endo-epithelial cell of tympanic part of viscerocranial mucosa |
| CL:0002645 | endo-epithelial cell of pharyngotympanic part of viscerocranial mucosa |
| CL:0002646 | epithelial cell of buccal part of viscerocranial mucosa |
| CL:0002647 | epithelial cell of anterior palatal part of viscerocranial mucosa |
| CL:0002648 | epithelial cell of nasal part of viscerocranial mucosa |
| CL:0002649 | epithelial cell of gingival part of viscerocranial mucosa |
| CL:0002650 | epithelial cell of paranasal sinus part of viscerocranial mucosa |
| CL:0002651 | endothelial cell of venous sinus of spleen |
| CL:0002652 | endothelial cell of high endothelial venule |
| CL:0002653 | squamous endothelial cell |
| CL:0002654 | epithelial cell of stratum corneum of esophageal epithelium |
| CL:0002655 | epithelial cell of stratum spinosum of esophageal epithelium |
| CL:0002656 | glandular cell of endometrium |
| CL:0002657 | glandular cell of esophagus |
| CL:0002658 | glandular cell of the large intestine |
| CL:0002659 | glandular cell of stomach |
| CL:0002660 | luminal cell of acinus of lactiferous gland |
| CL:0002661 | luminal cell of lactiferous terminal ductal lobular unit |
| CL:0002662 | luminal cell of lactiferous duct |
| CL:0002663 | myocardial endocrine cell of atrium |
| CL:0002664 | cardioblast |
| CL:0002665 | otic fibrocyte |
| CL:0002666 | type 2 otic fibrocyte |
| CL:0002667 | type 5 otic fibrocyte |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:0002668 | type 4 otic fibrocyte |
| CL:0002669 | type 3 otic fibrocyte |
| CL:0002670 | type 1 otic fibrocyte |
| CL:0002671 | endothelial stalk cell |
| CL:0002672 | retinal progenitor cell |
| CL:0002673 | tongue muscle cell |
| CL:0002674 | H minus |
| CL:0002675 | H plus |
| CL:0002676 | neural crest derived neuroblast |
| CL:0002677 | naive regulatory T cell |
| CL:0002678 | memory regulatory T cell |
| CL:0002679 | natural helper lymphocyte |
| CL:0002680 | PP cell of intestine |
| CL:0002681 | kidney cortical cell |
| CL:0005000 | spinal cord interneuron |
| CL:0005001 | iridoblast |
| CL:0005002 | xanthoblast |
| CL:0005003 | leucoblast |
| CL:0005004 | pigment erythroblast |
| CL:0005005 | cyanoblast |
| CL:0005006 | ionocyte |
| CL:0005007 | Kolmer-Agduhr neuron |
| CL:0005008 | macular hair cell |
| CL:0005009 | renal principal cell |
| CL:0005010 | renal intercalated cell |
| CL:0005011 | renal alpha-intercalated cell |
| CL:0005012 | multi-ciliated epithelial cell |
| CL:0005013 | single ciliated epithelial cell |
| CL:0005014 | auditory epithelial support cell |
| CL:0005015 | inner phalangeal cell |
| CL:0005018 | ghrelin secreting cell |
| CL:0005019 | pancreatic epsilon cell |
| CL:0005020 | lymphangioblast |
| CL:0005021 | mesenchymal lymphangioblast |
| CL:0005022 | vascular lymphangioblast |
| CL:0007000 | preameloblast |
| CL:0007001 | skeletogenic cell |
| CL:0007002 | precementoblast |
| CL:0007003 | preodontoblast |
| CL:0007004 | premigratory neural crest cell |
| CL:0007005 | notochordal cell |
| CL:0007006 | chordamesodermal cell |
| CL:0007007 | notochordal sheath cell |
| CL:0007008 | notochordal vacuole cell |
| CL:0007009 | prechondroblast |
| CL:0007010 | preosteoblast |
| CL:0007011 | enteric neuron |
| CL:0007012 | non-terminally differentiated odontoblast |
| CL:0007013 | terminally differentiated odontoblast |
| CL:0007014 | cell line cell |
| CL:0007015 | mortal cell line cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:0007016 | adaxial cell |
| CL:0009000 | sensory neuron of spinal nerve |
| CL:0011000 | dorsal horn interneuron |
| CL:0011001 | spinal cord motor neuron |
| CL:0011002 | lateral motor column neuron |
| CL:0011003 | magnocellular neurosecretory cell |
| CL:0011004 | lens fiber cell |
| CL:0011005 | GABAergic interneuron |
| CL:0011006 | lugaro cell |
| CL:1000082 | stretch receptor cell |
| CL:1000083 | stratified keratinized epithelial stem cell |
| CL:1000085 | stratified non keratinized epithelial stem cell |
| CL:1000191 | pillar cell |
| CL:1000274 | trophectodermal cell |
| CL:1000275 | smooth muscle cell of small intestine |
| CL:1000276 | smooth muscle fiber of duodenum |
| CL:1000277 | smooth muscle fiber of jejunum |
| CL:1000278 | smooth muscle fiber of ileum |
| CL:1000279 | smooth muscle cell of large intestine |
| CL:1000280 | smooth muscle cell of colon |
| CL:1000281 | smooth muscle cell of cecum |
| CL:1000282 | smooth muscle fiber of ascending colon |
| CL:1000283 | smooth muscle fiber of transverse colon |
| CL:1000284 | smooth muscle fiber of descending colon |
| CL:1000285 | smooth muscle cell of sigmoid colon |
| CL:1000286 | smooth muscle cell of rectum |
| CL:1000287 | myocyte of anterior internodal tract |
| CL:1000288 | myocyte of atrial branch of anterior internodal tract |
| CL:1000289 | myocyte of atrial septal branch of anterior internodal tract |
| CL:1000290 | myocyte of middle internodal tract |
| CL:1000291 | myocyte of posterior internodal tract |
| CL:1000296 | epithelial cell of urethra |
| CL:1000298 | mesothelial cell of dura mater |
| CL:1000299 | fibroblast of connective tissue of prostate |
| CL:1000300 | fibroblast of outer membrane of prostatic capsule |
| CL:1000301 | fibroblast of subepithelial connective tissue of prostatic gland |
| CL:1000302 | fibroblast of papillary layer of dermis |
| CL:1000303 | fibroblast of areolar connective tissue |
| CL:1000304 | fibroblast of connective tissue of nonglandular part of prostate |
| CL:1000305 | fibroblast of connective tissue of glandular part of prostate |
| CL:1000306 | fibroblast of tunica adventitia of artery |
| CL:1000307 | fibroblast of dense regular elastic tissue |
| CL:1000308 | fibrocyte of adventitia of ureter |
| CL:1000309 | epicardial adipocyte |
| CL:1000310 | adipocyte of epicardial fat of right ventricle |
| CL:1000311 | adipocyte of epicardial fat of left ventricle |
| CL:1000312 | bronchial goblet cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:1000313 | gastric goblet cell |
| CL:1000314 | goblet cell of epithelium of gastric cardiac gland |
| CL:1000315 | goblet cell of epithelium of principal gastric gland |
| CL:1000316 | goblet cell of epithelium of small intestine |
| CL:1000317 | goblet cell of epithelium of intestinal villus |
| CL:1000318 | goblet cell of epithelium of crypt of lieberkuhn of small intestine |
| CL:1000319 | goblet cell of epithelium proper of small intestine |
| CL:1000320 | goblet cell of epithelium of large intestine |
| CL:1000321 | goblet cell of epithelium of crypt of lieberkuhn of large intestine |
| CL:1000322 | pancreatic goblet cell |
| CL:1000323 | goblet cell of epithelium of pyloric gland |
| CL:1000324 | goblet cell of epithelium proper of duodenum |
| CL:1000325 | goblet cell of epithelium proper of jejunum |
| CL:1000326 | goblet cell of epithelium proper of ileum |
| CL:1000327 | goblet cell of epithelium proper of appendix |
| CL:1000328 | goblet cell of epithelium proper of large intestine |
| CL:1000329 | tracheal goblet cell |
| CL:1000330 | serous cell of epithelium of trachea |
| CL:1000331 | serous cell of epithelium of bronchus |
| CL:1000332 | serous cell of epithelium of terminal bronchiole |
| CL:1000333 | serous cell of epithelium of lobular bronchiole |
| CL:1000334 | enterocyte of epithelium of small intestine |
| CL:1000335 | enterocyte of epithelium of intestinal villus |
| CL:1000337 | enterocyte of epithelium of duodenal gland |
| CL:1000338 | enterocyte of epithelium of crypt of lieberkuhn of small intestine |
| CL:1000339 | enterocyte of epithelium proper of small intestine |
| CL:1000340 | enterocyte of epithelium proper of duodenum |
| CL:1000341 | enterocyte of epithelium proper of jejunum |
| CL:1000342 | enterocyte of epithelium proper of ileum |
| CL:1000343 | paneth cell of epithelium of small intestine |
| CL:1000344 | paneth cell of epithelium proper of small intestine |
| CL:1000345 | paneth cell of epithelium of crypt of lieberkuhn of small intestine |
| CL:1000346 | vacuolar absorptive cell of epithelium proper of large intestine |
| CL:1000347 | vacuolar absorptive cell of epithelium of colon |
| CL:1000348 | basal cell of epithelium of trachea |
| CL:1000349 | basal cell of epithelium of bronchus |
| CL:1000350 | basal cell of epithelium of terminal bronchiole |
| CL:1000351 | basal cell of epithelium of respiratory bronchiole |
| CL:1000352 | basal cell of epithelium of lobular bronchiole |
| CL:1000353 | microfold cell of epithelium of small intestine |
| CL:1000354 | microfold cell of epithelium of intestinal villus |
| CL:1000355 | microfold cell of epithelium proper of small intestine |
| CL:1000356 | microfold cell of epithelium proper of duodenum |
| CL:1000357 | microfold cell of epithelium proper of jejunum |
| CL:1000358 | microfold cell of epithelium proper of ileum |
| CL:1000359 | microfold cell of epithelium proper of appendix |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:1000360 | microfold cell of epithelium proper of large intestine |
| CL:1000361 | transitional myocyte of interatrial septum |
| CL:1000362 | transitional myocyte of interventricular septum |
| CL:1000363 | transitional myocyte of atrial branch of anterior internodal tract |
| CL:1000364 | transitional myocyte of anterior internodal tract |
| CL:1000365 | transitional myocyte of atrial septal branch of anterior internodal tract |
| CL:1000366 | transitional myocyte of middle internodal tract |
| CL:1000367 | transitional myocyte of posterior internodal tract |
| CL:1000368 | transitional myocyte of anterior division of left branch of atrioventricular bundle |
| CL:1000369 | transitional myocyte of septal division of left branch of atrioventricular bundle |
| CL:1000370 | transitional myocyte of left branch of atrioventricular bundle |
| CL:1000371 | transitional myocyte of right branch of atrioventricular bundle |
| CL:1000372 | transitional myocyte of atrial part of atrioventricular bundle |
| CL:1000373 | transitional myocyte of ventricular part of atrioventricular bundle |
| CL:1000374 | transitional myocyte of posterior division of left branch of atrioventricular bundle |
| CL:1000375 | myocardial endocrine cell of septal division of left branch of atrioventricular bundle |
| CL:1000376 | purkinje myocyte of interventricular septum |
| CL:1000377 | dense-core granulated cell of epithelium of trachea |
| CL:1000378 | type 1 vestibular sensory cell of stato-acoustic epithelium |
| CL:1000379 | type 1 vestibular sensory cell of epithelium of macula of utricle of membranous labyrinth |
| CL:1000380 | type 1 vestibular sensory cell of epithelium of macula of saccule of membranous labyrinth |
| CL:1000381 | type 1 vestibular sensory cell of epithelium of crista of ampulla of semicircular duct of membranous labyrinth |
| CL:1000382 | type 2 vestibular sensory cell of stato-acoustic epithelium |
| CL:1000383 | type 2 vestibular sensory cell of epithelium of macula of utricle of membranous labyrinth |
| CL:1000384 | type 2 vestibular sensory cell of epithelium of macula of saccule of membranous labyrinth |
| CL:1000385 | type 2 vestibular sensory cell of epithelium of crista of ampulla of semicircular duct of membranous labyrinth |
| CL:1000391 | melanocyte of eyelid |
| CL:1000394 | myoepithelial cell of intralobular lactiferous duct |
| CL:1000397 | endothelial cell of venous sinus of red pulp of spleen |
| CL:1000398 | endothelial cell of hepatic sinusoid |
| CL:1000405 | epithelial cell of appendix |
| CL:1000409 | myocyte of sinoatrial node |
| CL:1000410 | myocyte of atrioventricular node |
| CL:1000411 | endothelial cell of peyer's patch |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:1000412 | endothelial cell of arteriole |
| CL:1000413 | endothelial cell of artery |
| CL:1000414 | endothelial cell of venule |
| CL:1000415 | epithelial cell of gall bladder |
| CL:1000416 | myoepithelial cell of lactiferous gland |
| CL:1000417 | myoepithelial cell of sweat gland |
| CL:1000418 | myoepithelial cell of lactiferous alveolus |
| CL:1000419 | myoepithelial cell of lactiferous duct |
| CL:1000420 | myoepithelial cell of terminal lactiferous duct |
| CL:1000424 | chromaffin cell of paraaortic body |
| CL:1000425 | chromaffin cell of paraganglion |
| CL:1000426 | chromaffin cell of adrenal gland |
| CL:1000427 | adrenal cortex chromaffin cell |
| CL:1000428 | stem cell of epidermis |
| CL:1000432 | conjunctival epithelial cell |
| CL:1000433 | epithelial cell of lacrimal canaliculus |
| CL:1000434 | epithelial cell of external acoustic meatus |
| CL:1000435 | epithelial cell of lacrimal duct |
| CL:1000436 | epithelial cell of lacrimal sac |
| CL:1000437 | epithelial cell of nasolacrimal duct |
| CL:1000438 | epithelial cell of wall of inferior part of anal canal |
| CL:1000441 | epithelial cell of viscerocranial mucosa |
| CL:1000442 | urothelial cell of trigone of urinary bladder |
| CL:1000443 | ciliary muscle cell |
| CL:1000444 | mesothelial cell of anterior chamber of eye |
| CL:1000445 | myoepithelial cell of dilator pupillae |
| CL:1000447 | epithelial cell of stratum germinativum of esophagus |
| CL:1000448 | epithelial cell of sweat gland |
| CL:1000449 | epithelial cell of nephron |
| CL:1000450 | epithelial cell of glomerular capsule |
| CL:1000451 | epithelial cell of visceral layer of glomerular capsule |
| CL:1000452 | parietal epithelial cell |
| CL:1000453 | epithelial cell of intermediate tubule |
| CL:1000454 | kidney collecting duct epithelial cell |
| CL:1000456 | mesothelial cell of parietal peritoneum |
| CL:1000457 | mesothelial cell of visceral peritoneum |
| CL:1000458 | melanocyte of skin |
| CL:1000465 | chromaffin cell of ovary |
| CL:1000466 | chromaffin cell of right ovary |
| CL:1000467 | chromaffin cell of left ovary |
| CL:1000468 | myoepithelial cell of acinus of lactiferous gland |
| CL:1000469 | myoepithelial cell of main lactiferous duct |
| CL:1000470 | myoepithelial cell of primary lactiferous duct |
| CL:1000471 | myoepithelial cell of secondary lactiferous duct |
| CL:1000472 | myoepithelial cell of tertiary lactiferous duct |
| CL:1000473 | myoepithelial cell of quarternary lactiferous duct |
| CL:1000477 | cardiac pacemaker cell of sinoatrial node |
| CL:1000478 | transitional myocyte of sinoatrial node |
| CL:1000479 | purkinje myocyte of atrioventricular node |
| CL:1000480 | transitional myocyte of internodal tract |
| CL:1000481 | transitional myocyte of atrioventricular bundle |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| CL:1000482 | myocardial endocrine cell of interventricular septum |
| CL:1000483 | purkinje myocyte of internodal tract |
| CL:1000484 | purkinje myocyte of atrioventricular bundle |
| CL:1000486 | basal cell of urothelium |
| CL:1000487 | smooth muscle cell of prostate |
| CL:1000488 | cholangiocyte |
| CL:1000489 | reticular cell of splenic cord |
| CL:1000490 | mesothelial cell of peritoneum |
| CL:1000491 | mesothelial cell of pleura |
| CL:1000492 | mesothelial cell of parietal pleura |
| CL:1000493 | mesothelial cell of visceral pleura |
| CL:1000494 | epithelial cell of renal tubule |
| CL:1000495 | goblet cell of small intestine |
| CL:1000497 | kidney cell |
| CL:1000500 | kidney interstitial cell |
| CL:1000504 | kidney medulla cell |
| CL:1000505 | kidney pelvis cell |
| CL:1000507 | kidney tubule cell |
| CL:1000510 | kidney glomerular epithelial cell |
| CL:1000546 | kidney medulla collecting duct epithelial cell |
| CL:1000547 | kidney inner medulla collecting duct epithelial cell |
| CL:1000548 | kidney outer medulla collecting duct epithelial cell |
| CL:1000549 | kidney cortex collecting duct epithelial cell |
| CL:1000550 | kidney papillary duct principal epithelial cell |
| CL:1000596 | inner renal cortex cell |
| CL:1000597 | papillary tips cell |
| CL:1000600 | lower urinary tract cell |
| CL:1000601 | ureteral cell |
| CL:1000606 | kidney nerve cell |
| CL:1000612 | kidney corpuscle cell |
| CL:1000615 | kidney cortex tubule cell |
| CL:1000616 | kidney outer medulla cell |
| CL:1000617 | kidney inner medulla cell |
| CL:1000618 | juxtaglomerular complex cell |
| CL:1000681 | kidney cortex interstitial cell |
| CL:1000682 | kidney medulla interstitial cell |
| CL:1000691 | kidney interstitial myofibroblast |
| CL:1000692 | kidney interstitial fibroblast |
| CL:1000693 | kidney interstitial fibrocyte |
| CL:1000695 | kidney interstitial alternatively activated macrophage |
| CL:1000696 | kidney interstitial inflammatory macrophage |
| CL:1000697 | kidney interstitial suppressor macrophage |
| CL:1000698 | kidney resident macrophage |
| CL:1000699 | kidney resident dendritic cell |
| CL:1000702 | kidney pelvis smooth muscle cell |
| CL:1000703 | kidney pelvis urothelial cell |
| CL:1000706 | ureter urothelial cell |
| CL:1000708 | ureter adventitial cell |
| CL:1000714 | kidney cortex collecting duct principal cell |
| CL:1000715 | kidney cortex collecting duct intercalated cell |
| CL:1000716 | kidney outer medulla collecting duct principal cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:1000717 | kidney outer medulla collecting duct intercalated cell |
| CL:1000718 | kidney inner medulla collecting duct principal cell |
| CL:1000719 | kidney inner medulla collecting duct intercalated cell |
| CL:1000720 | kidney papillary duct intercalated cell |
| CL:1000721 | kidney papillary duct principal cell |
| CL:1000742 | glomerular mesangial cell |
| CL:1000746 | glomerular cell |
| CL:1000768 | kidney connecting tubule epithelial cell |
| CL:1000803 | kidney inner medulla interstitial cell |
| CL:1000804 | kidney outer medulla interstitial cell |
| CL:1000838 | kidney proximal convoluted tubule epithelial cell |
| CL:1000839 | kidney proximal straight tubule epithelial cell |
| CL:1000849 | kidney distal convoluted tubule epithelial cell |
| CL:1000850 | macula densa epithelial cell |
| CL:1000854 | kidney blood vessel cell |
| CL:1000891 | kidney arterial blood vessel cell |
| CL:1000892 | kidney capillary endothelial cell |
| CL:1000893 | kidney venous blood vessel cell |
| CL:1000909 | kidney loop of henle epithelial cell |
| CL:1000979 | ureter smooth muscle cell |
| CL:1001005 | glomerular capillary endothelial cell |
| CL:1001006 | kidney afferent arteriole cell |
| CL:1001009 | kidney efferent arteriole cell |
| CL:1001016 | kidney loop of henle ascending limb epithelial cell |
| CL:1001021 | kidney loop of henle descending limb epithelial cell |
| CL:1001033 | peritubular capillary endothelial cell |
| CL:1001036 | vasa recta cell |
| CL:1001045 | kidney cortex artery cell |
| CL:1001052 | kidney cortex vein cell |
| CL:1001064 | kidney artery smooth muscle cell |
| CL:1001066 | kidney arteriole smooth muscle cell |
| CL:1001068 | kidney venous system smooth muscle cell |
| CL:1001096 | kidney afferent arteriole endothelial cell |
| CL:1001097 | kidney afferent arteriole smooth muscle cell |
| CL:1001099 | kidney efferent arteriole endothelial cell |
| CL:1001100 | kidney efferent arteriole smooth muscle cell |
| CL:1001106 | kidney loop of henle thick ascending limb epithelial cell |
| CL:1001107 | kidney loop of henle thin ascending limb epithelial cell |
| CL:1001108 | kidney loop of henle medullary thick ascending limb epithelial cell |
| CL:1001109 | kidney loop of henle cortical thick ascending limb epithelial cell |
| CL:1001111 | kidney loop of henle thin descending limb epithelial cell |
| CL:1001123 | kidney outer medulla peritubular capillary cell |
| CL:1001124 | kidney cortex peritubular capillary cell |
| CL:1001126 | inner renal medulla vasa recta cell |
| CL:1001127 | outer renal medulla vasa recta cell |
| CL:1001131 | vasa recta ascending limb cell |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CL:1001135 | arcuate artery cell |
| CL:1001138 | interlobular artery cell |
| CL:1001142 | arcuate vein cell |
| CL:1001145 | interlobular vein cell |
| CL:1001209 | inner medulla vasa recta ascending limb cell |
| CL:1001210 | outer medulla vasa recta ascending limb cell |
| CL:1001213 | arcuate artery endothelial cell |
| CL:1001214 | arcuate artery smooth muscle cell |
| CL:1001216 | interlobular artery endothelial cell |
| CL:1001217 | interlobular artery smooth muscle cell |
| CL:1001220 | arcuate vein endothelial cell |
| CL:1001221 | arcuate vein smooth muscle cell |
| CL:1001223 | interlobular vein endothelial cell |
| CL:1001224 | interlobular vein smooth muscle cell |
| CL:1001225 | kidney collecting duct cell |
| CL:1001285 | vasa recta descending limb cell |
| CL:1001286 | inner medulla vasa recta descending limb cell |
| CL:1001287 | outer medulla vasa recta descending limb cell |
| CL:1001318 | renal interstitial pericyte |
| CL:1001319 | bladder cell |
| CL:1001320 | urethra cell |
| CL:1001428 | bladder urothelial cell |
| CL:1001430 | urethra urothelial cell |
| CL:1001431 | kidney collecting duct principal cell |
| CL:1001432 | kidney collecting duct intercalated cell |
| CL:1001433 | epithelial cell of exocrine pancreas |
| CL:1001434 | olfactory bulb interneuron |
| CL:1001435 | periglomerular cell |
| CL:1001436 | hair-tylotrich neuron |
| CL:1001437 | hair-down neuron |
| CL:1001451 | sensory neuron of dorsal root ganglion |
| CL:1001474 | medium spiny neuron |
| CL:1001502 | mitral cell |
| CL:1001503 | olfactory bulb tufted cell |
| CL:1001505 | parvocellular neurosecretory cell |
| CL:1001509 | glycinergic neuron |
| CL:1001516 | intestinal enteroendocrine cell |
| CL:1001517 | stomach enteroendocrine cell |
| CL:1001561 | vomeronasal sensory neuron |
| CL:1001566 | bronchioalveolar stem cells |
| CL:1001567 | lung endothelial cell |
| CL:1001568 | pulmonary artery endothelial cell |
| CL:1001569 | hippocampal interneuron |
| CL:1001571 | hippocampal pyramidal neuron |
| CP:0000000 | neutrophilic cytoplasm |
| CP:0000025 | lobed nucleus |
| CP:0000027 | acidophilic cytoplasm |
| CP:0000028 | basophilic cytoplasm |
| CP:0000035 | polychromatophilic cytoplasm |
| CP:0000037 | increased nucleus size |
| CP:0000039 | banded nucleus |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| CP:0000040 | reniform nucleus |
| CP:0000043 | cartwheel heterochromatin |
| GO:0000003 | reproduction |
| GO:0000018 | regulation of DNA recombination |
| GO:0000087 | M phase of mitotic cell cycle |
| GO:0000226 | microtubule cytoskeleton organization |
| GO:0000278 | mitotic cell cycle |
| GO:0000279 | M phase |
| GO:0000280 | nuclear division |
| GO:0000323 | lytic vacuole |
| GO:0000785 | chromatin |
| GO:0000791 | euchromatin |
| GO:0000792 | heterochromatin |
| GO:0001501 | skeletal system development |
| GO:0001503 | ossification |
| GO:0001525 | angiogenesis |
| GO:0001553 | luteinization |
| GO:0001568 | blood vessel development |
| GO:0001578 | microtubule bundle formation |
| GO:0001649 | osteoblast differentiation |
| GO:0001667 | ameboidal cell migration |
| GO:0001675 | acrosome assembly |
| GO:0001773 | myeloid dendritic cell activation |
| GO:0001775 | cell activation |
| GO:0001776 | leukocyte homeostasis |
| GO:0001782 | B cell homeostasis |
| GO:0001783 | B cell apoptotic process |
| GO:0001816 | cytokine production |
| GO:0001817 | regulation of cytokine production |
| GO:0001818 | negative regulation of cytokine production |
| GO:0001820 | serotonin secretion |
| GO:0001894 | tissue homeostasis |
| GO:0001906 | cell killing |
| GO:0001909 | leukocyte mediated cytotoxicity |
| GO:0001913 | T cell mediated cytotoxicity |
| GO:0001942 | hair follicle development |
| GO:0001944 | vasculature development |
| GO:0001974 | blood vessel remodeling |
| GO:0002200 | somatic diversification of immune receptors |
| GO:0002204 | somatic recombination of immunoglobulin genes involved in immune response |
| GO:0002208 | somatic diversification of immunoglobulins involved in immune response |
| GO:0002215 | defense response to nematode |
| GO:0002227 | innate immune response in mucosa |
| GO:0002228 | natural killer cell mediated immunity |
| GO:0002244 | hematopoietic progenitor cell differentiation |
| GO:0002249 | lymphocyte anergy |
| GO:0002250 | adaptive immune response |
| GO:0002251 | organ or tissue specific immune response |
| GO:0002252 | immune effector process |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| GO:0002260 | lymphocyte homeostasis |
| GO:0002263 | cell activation involved in immune response |
| GO:0002274 | myeloid leukocyte activation |
| GO:0002285 | lymphocyte activation involved in immune response |
| GO:0002286 | T cell activation involved in immune response |
| GO:0002287 | alpha-beta T cell activation involved in immune response |
| GO:0002288 | NK T cell activation involved in immune response |
| GO:0002292 | T cell differentiation involved in immune response |
| GO:0002293 | alpha-beta T cell differentiation involved in immune response |
| GO:0002294 | CD4-positive, alpha-beta T cell differentiation involved in immune response |
| GO:0002312 | B cell activation involved in immune response |
| GO:0002313 | mature B cell differentiation involved in immune response |
| GO:0002314 | germinal center B cell differentiation |
| GO:0002335 | mature B cell differentiation |
| GO:0002339 | B cell selection |
| GO:0002343 | peripheral B cell selection |
| GO:0002344 | B cell affinity maturation |
| GO:0002349 | histamine production involved in inflammatory response |
| GO:0002351 | serotonin production involved in inflammatory response |
| GO:0002366 | leukocyte activation involved in immune response |
| GO:0002367 | cytokine production involved in immune response |
| GO:0002369 | T cell cytokine production |
| GO:0002376 | immune system process |
| GO:0002377 | immunoglobulin production |
| GO:0002381 | immunoglobulin production involved in immunoglobulin mediated immune response |
| GO:0002385 | mucosal immune response |
| GO:0002386 | immune response in mucosal-associated lymphoid tissue |
| GO:0002387 | immune response in gut-associated lymphoid tissue |
| GO:0002395 | immune response in nasopharyngeal-associated lymphoid tissue |
| GO:0002432 | granuloma formation |
| GO:0002440 | production of molecular mediator of immune response |
| GO:0002443 | leukocyte mediated immunity |
| GO:0002449 | lymphocyte mediated immunity |
| GO:0002456 | T cell mediated immunity |
| GO:0002460 | adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains |
| GO:0002461 | tolerance induction dependent upon immune response |
| GO:0002465 | peripheral tolerance induction |
| GO:0002467 | germinal center formation |
| GO:0002474 | antigen processing and presentation of peptide antigen via MHC class I |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0002478 | antigen processing and presentation of exogenous peptide antigen |
| GO:0002495 | antigen processing and presentation of peptide antigen via MHC class II |
| GO:0002504 | antigen processing and presentation of peptide or polysaccharide antigen via MHC class II |
| GO:0002507 | tolerance induction |
| GO:0002514 | B cell tolerance induction |
| GO:0002515 | B cell anergy |
| GO:0002520 | immune system development |
| GO:0002521 | leukocyte differentiation |
| GO:0002532 | production of molecular mediator involved in inflammatory response |
| GO:0002536 | respiratory burst involved in inflammatory response |
| GO:0002537 | nitric oxide production involved in inflammatory response |
| GO:0002538 | arachidonic acid metabolite production involved in inflammatory response |
| GO:0002539 | prostaglandin production involved in inflammatory response |
| GO:0002540 | leukotriene production involved in inflammatory response |
| GO:0002544 | chronic inflammatory response |
| GO:0002548 | monocyte chemotaxis |
| GO:0002562 | somatic diversification of immune receptors via germline recombination within a single locus |
| GO:0002566 | somatic diversification of immune receptors via somatic mutation |
| GO:0002573 | myeloid leukocyte differentiation |
| GO:0002574 | thrombocyte differentiation |
| GO:0002634 | regulation of germinal center formation |
| GO:0002637 | regulation of immunoglobulin production |
| GO:0002643 | regulation of tolerance induction |
| GO:0002645 | positive regulation of tolerance induction |
| GO:0002652 | regulation of tolerance induction dependent upon immune response |
| GO:0002654 | positive regulation of tolerance induction dependent upon immune response |
| GO:0002658 | regulation of peripheral tolerance induction |
| GO:0002660 | positive regulation of peripheral tolerance induction |
| GO:0002679 | respiratory burst involved in defense response |
| GO:0002682 | regulation of immune system process |
| GO:0002683 | negative regulation of immune system process |
| GO:0002684 | positive regulation of immune system process |
| GO:0002685 | regulation of leukocyte migration |
| GO:0002687 | positive regulation of leukocyte migration |
| GO:0002688 | regulation of leukocyte chemotaxis |
| GO:0002690 | positive regulation of leukocyte chemotaxis |
| GO:0002694 | regulation of leukocyte activation |
| GO:0002695 | negative regulation of leukocyte activation |
| GO:0002696 | positive regulation of leukocyte activation |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0002697 | regulation of immune effector process |
| GO:0002699 | positive regulation of immune effector process |
| GO:0002700 | regulation of production of molecular mediator of immune response |
| GO:0002703 | regulation of leukocyte mediated immunity |
| GO:0002706 | regulation of lymphocyte mediated immunity |
| GO:0002712 | regulation of B cell mediated immunity |
| GO:0002775 | antimicrobial peptide production |
| GO:0002776 | antimicrobial peptide secretion |
| GO:0002790 | peptide secretion |
| GO:0002819 | regulation of adaptive immune response |
| GO:0002821 | positive regulation of adaptive immune response |
| GO:0002822 | regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains |
| GO:0002824 | positive regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains |
| GO:0002825 | regulation of T-helper 1 type immune response |
| GO:0002827 | positive regulation of T-helper 1 type immune response |
| GO:0002828 | regulation of type 2 immune response |
| GO:0002830 | positive regulation of type 2 immune response |
| GO:0002889 | regulation of immunoglobulin mediated immune response |
| GO:0002901 | mature B cell apoptotic process |
| GO:0002902 | regulation of B cell apoptotic process |
| GO:0002905 | regulation of mature B cell apoptotic process |
| GO:0003001 | generation of a signal involved in cell-cell signaling |
| GO:0003006 | developmental process involved in reproduction |
| GO:0003008 | system process |
| GO:0003012 | muscle system process |
| GO:0003013 | circulatory system process |
| GO:0003674 | molecular_function |
| GO:0004871 | signal transducer activity |
| GO:0004872 | receptor activity |
| GO:0004888 | transmembrane signaling receptor activity |
| GO:0005044 | scavenger receptor activity |
| GO:0005215 | transporter activity |
| GO:0005488 | binding |
| GO:0005575 | cellular_component |
| GO:0005576 | extracellular region |
| GO:0005615 | extracellular space |
| GO:0005622 | intracellular |
| GO:0005623 | cell |
| GO:0005634 | nucleus |
| GO:0005694 | chromosome |
| GO:0005730 | nucleolus |
| GO:0005737 | cytoplasm |
| GO:0005764 | lysosome |
| GO:0005766 | primary lysosome |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| GO:0005773 | vacuole |
| GO:0005794 | Golgi apparatus |
| GO:0005840 | ribosome |
| GO:0005886 | plasma membrane |
| GO:0005887 | integral to plasma membrane |
| GO:0005902 | microvillus |
| GO:0005929 | cilium |
| GO:0006022 | aminoglycan metabolic process |
| GO:0006023 | aminoglycan biosynthetic process |
| GO:0006024 | glycosaminoglycan biosynthetic process |
| GO:0006082 | organic acid metabolic process |
| GO:0006139 | nucleobase-containing compound metabolic process |
| GO:0006259 | DNA metabolic process |
| GO:0006310 | DNA recombination |
| GO:0006323 | DNA packaging |
| GO:0006520 | cellular amino acid metabolic process |
| GO:0006544 | glycine metabolic process |
| GO:0006545 | glycine biosynthetic process |
| GO:0006725 | cellular aromatic compound metabolic process |
| GO:0006790 | sulfur compound metabolic process |
| GO:0006801 | superoxide metabolic process |
| GO:0006807 | nitrogen compound metabolic process |
| GO:0006810 | transport |
| GO:0006811 | ion transport |
| GO:0006812 | cation transport |
| GO:0006837 | serotonin transport |
| GO:0006869 | lipid transport |
| GO:0006897 | endocytosis |
| GO:0006909 | phagocytosis |
| GO:0006915 | apoptotic process |
| GO:0006921 | cellular component disassembly involved in execution phase of apoptosis |
| GO:0006928 | cellular component movement |
| GO:0006935 | chemotaxis |
| GO:0006936 | muscle contraction |
| GO:0006937 | regulation of muscle contraction |
| GO:0006939 | smooth muscle contraction |
| GO:0006940 | regulation of smooth muscle contraction |
| GO:0006950 | response to stress |
| GO:0006952 | defense response |
| GO:0006954 | inflammatory response |
| GO:0006955 | immune response |
| GO:0006959 | humoral immune response |
| GO:0006996 | organelle organization |
| GO:0006997 | nucleus organization |
| GO:0007010 | cytoskeleton organization |
| GO:0007017 | microtubule-based process |
| GO:0007049 | cell cycle |
| GO:0007067 | mitosis |
| GO:0007113 | endomitotic cell cycle |
| GO:0007126 | meiosis |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| GO:0007135 | meiosis II |
| GO:0007140 | male meiosis |
| GO:0007142 | male meiosis II |
| GO:0007143 | female meiosis |
| GO:0007147 | female meiosis II |
| GO:0007154 | cell communication |
| GO:0007267 | cell-cell signaling |
| GO:0007275 | multicellular organismal development |
| GO:0007276 | gamete generation |
| GO:0007281 | germ cell development |
| GO:0007283 | spermatogenesis |
| GO:0007286 | spermatid development |
| GO:0007288 | sperm axoneme assembly |
| GO:0007289 | spermatid nucleus differentiation |
| GO:0007292 | female gamete generation |
| GO:0007399 | nervous system development |
| GO:0007507 | heart development |
| GO:0007548 | sex differentiation |
| GO:0007585 | respiratory gaseous exchange |
| GO:0007586 | digestion |
| GO:0007589 | body fluid secretion |
| GO:0007596 | blood coagulation |
| GO:0007599 | hemostasis |
| GO:0007600 | sensory perception |
| GO:0007601 | visual perception |
| GO:0007605 | sensory perception of sound |
| GO:0007606 | sensory perception of chemical stimulus |
| GO:0007608 | sensory perception of smell |
| GO:0007610 | behavior |
| GO:0008015 | blood circulation |
| GO:0008104 | protein localization |
| GO:0008150 | biological_process |
| GO:0008152 | metabolic process |
| GO:0008219 | cell death |
| GO:0008283 | cell proliferation |
| GO:0008284 | positive regulation of cell proliferation |
| GO:0008285 | negative regulation of cell proliferation |
| GO:0008289 | lipid binding |
| GO:0008406 | gonad development |
| GO:0008509 | anion transmembrane transporter activity |
| GO:0008544 | epidermis development |
| GO:0008585 | female gonad development |
| GO:0008652 | cellular amino acid biosynthetic process |
| GO:0009058 | biosynthetic process |
| GO:0009059 | macromolecule biosynthetic process |
| GO:0009069 | serine family amino acid metabolic process |
| GO:0009070 | serine family amino acid biosynthetic process |
| GO:0009266 | response to temperature stimulus |
| GO:0009296 | flagellum assembly |
| GO:0009306 | protein secretion |
| GO:0009314 | response to radiation |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0009416 | response to light stimulus |
| GO:0009566 | fertilization |
| GO:0009581 | detection of external stimulus |
| GO:0009582 | detection of abiotic stimulus |
| GO:0009583 | detection of light stimulus |
| GO:0009584 | detection of visible light |
| GO:0009590 | detection of gravity |
| GO:0009593 | detection of chemical stimulus |
| GO:0009605 | response to external stimulus |
| GO:0009607 | response to biotic stimulus |
| GO:0009611 | response to wounding |
| GO:0009612 | response to mechanical stimulus |
| GO:0009617 | response to bacterium |
| GO:0009624 | response to nematode |
| GO:0009628 | response to abiotic stimulus |
| GO:0009629 | response to gravity |
| GO:0009653 | anatomical structure morphogenesis |
| GO:0009887 | organ morphogenesis |
| GO:0009888 | tissue development |
| GO:0009893 | positive regulation of metabolic process |
| GO:0009914 | hormone transport |
| GO:0009987 | cellular process |
| GO:0010604 | positive regulation of macromolecule metabolic process |
| GO:0010817 | regulation of hormone levels |
| GO:0010876 | lipid localization |
| GO:0010927 | cellular component assembly involved in morphogenesis |
| GO:0010941 | regulation of cell death |
| GO:0012501 | programmed cell death |
| GO:0012505 | endomembrane system |
| GO:0012506 | vesicle membrane |
| GO:0014046 | dopamine secretion |
| GO:0014706 | striated muscle tissue development |
| GO:0015031 | protein transport |
| GO:0015075 | ion transmembrane transporter activity |
| GO:0015103 | inorganic anion transmembrane transporter activity |
| GO:0015106 | bicarbonate transmembrane transporter activity |
| GO:0015669 | gas transport |
| GO:0015671 | oxygen transport |
| GO:0015695 | organic cation transport |
| GO:0015833 | peptide transport |
| GO:0015837 | amine transport |
| GO:0015844 | monoamine transport |
| GO:0015850 | organic hydroxy compound transport |
| GO:0015872 | dopamine transport |
| GO:0015874 | norepinephrine transport |
| GO:0016020 | membrane |
| GO:0016021 | integral to membrane |
| GO:0016023 | cytoplasmic membrane–bounded vesicle |
| GO:0016043 | cellular component organization |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| GO:0016048 | detection of temperature stimulus |
| GO:0016050 | vesicle organization |
| GO:0016053 | organic acid biosynthetic process |
| GO:0016064 | immunoglobulin mediated immune response |
| GO:0016192 | vesicle-mediated transport |
| GO:0016265 | death |
| GO:0016444 | somatic cell DNA recombination |
| GO:0016445 | somatic diversification of immunoglobulins |
| GO:0016446 | somatic hypermutation of immunoglobulin genes |
| GO:0016447 | somatic recombination of immunoglobulin gene segments |
| GO:0016477 | cell migration |
| GO:0017145 | stem cell division |
| GO:0019219 | regulation of nucleobase-containing compound metabolic process |
| GO:0019222 | regulation of metabolic process |
| GO:0019724 | B cell mediated immunity |
| GO:0019730 | antimicrobial humoral response |
| GO:0019752 | carboxylic acid metabolic process |
| GO:0019814 | immunoglobulin complex |
| GO:0019815 | B cell receptor complex |
| GO:0019882 | antigen processing and presentation |
| GO:0019884 | antigen processing and presentation of exogenous antigen |
| GO:0019953 | sexual reproduction |
| GO:0021700 | developmental maturation |
| GO:0022008 | neurogenesis |
| GO:0022402 | cell cycle process |
| GO:0022403 | cell cycle phase |
| GO:0022404 | molting cycle process |
| GO:0022405 | hair cycle process |
| GO:0022411 | cellular component disassembly |
| GO:0022412 | cellular process involved in reproduction in multicellular organism |
| GO:0022414 | reproductive process |
| GO:0022600 | digestive system process |
| GO:0022602 | ovulation cycle process |
| GO:0022603 | regulation of anatomical structure morphogenesis |
| GO:0022607 | cellular component assembly |
| GO:0022857 | transmembrane transporter activity |
| GO:0022891 | substrate-specific transmembrane transporter activity |
| GO:0022892 | substrate-specific transporter activity |
| GO:0023052 | signaling |
| GO:0023061 | signal release |
| GO:0030030 | cell projection organization |
| GO:0030031 | cell projection assembly |
| GO:0030072 | peptide hormone secretion |
| GO:0030073 | insulin secretion |
| GO:0030097 | hemopoiesis |
| GO:0030098 | lymphocyte differentiation |
| GO:0030099 | myeloid cell differentiation |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0030101 | natural killer cell activation |
| GO:0030103 | vasopressin secretion |
| GO:0030141 | secretory granule |
| GO:0030154 | cell differentiation |
| GO:0030182 | neuron differentiation |
| GO:0030183 | B cell differentiation |
| GO:0030198 | extracellular matrix organization |
| GO:0030202 | heparin metabolic process |
| GO:0030203 | glycosaminoglycan metabolic process |
| GO:0030210 | heparin biosynthetic process |
| GO:0030217 | T cell differentiation |
| GO:0030218 | erythrocyte differentiation |
| GO:0030219 | megakaryocyte differentiation |
| GO:0030221 | basophil differentiation |
| GO:0030222 | eosinophil differentiation |
| GO:0030223 | neutrophil differentiation |
| GO:0030224 | monocyte differentiation |
| GO:0030225 | macrophage differentiation |
| GO:0030252 | growth hormone secretion |
| GO:0030261 | chromosome condensation |
| GO:0030262 | apoptotic nuclear changes |
| GO:0030263 | apoptotic chromosome condensation |
| GO:0030316 | osteoclast differentiation |
| GO:0030317 | sperm motility |
| GO:0030334 | regulation of cell migration |
| GO:0030335 | positive regulation of cell migration |
| GO:0030529 | ribonucleoprotein complex |
| GO:0030593 | neutrophil chemotaxis |
| GO:0030595 | leukocyte chemotaxis |
| GO:0030659 | cytoplasmic vesicle membrane |
| GO:0030667 | secretory granule membrane |
| GO:0030851 | granulocyte differentiation |
| GO:0030855 | epithelial cell differentiation |
| GO:0031090 | organelle membrane |
| GO:0031224 | intrinsic to membrane |
| GO:0031226 | intrinsic to plasma membrane |
| GO:0031268 | pseudopodium organization |
| GO:0031294 | lymphocyte costimulation |
| GO:0031323 | regulation of cellular metabolic process |
| GO:0031325 | positive regulation of cellular metabolic process |
| GO:0031347 | regulation of defense response |
| GO:0031348 | negative regulation of defense response |
| GO:0031349 | positive regulation of defense response |
| GO:0031410 | cytoplasmic vesicle |
| GO:0031974 | membrane-enclosed lumen |
| GO:0031981 | nuclear lumen |
| GO:0031982 | vesicle |
| GO:0031988 | membrane-bounded vesicle |
| GO:0032101 | regulation of response to external stimulus |
| GO:0032102 | negative regulation of response to external stimulus |
| GO:0032103 | positive regulation of response to external stimulus |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| GO:0032274 | gonadotropin secretion |
| GO:0032275 | luteinizing hormone secretion |
| GO:0032394 | MHC class Ib receptor activity |
| GO:0032501 | multicellular organismal process |
| GO:0032502 | developmental process |
| GO:0032504 | multicellular organism reproduction |
| GO:0032606 | type I interferon production |
| GO:0032609 | interferon-gamma production |
| GO:0032611 | interleukin-1 beta production |
| GO:0032612 | interleukin-1 production |
| GO:0032613 | interleukin-10 production |
| GO:0032616 | interleukin-13 production |
| GO:0032620 | interleukin-17 production |
| GO:0032623 | interleukin-2 production |
| GO:0032626 | interleukin-22 production |
| GO:0032633 | interleukin-4 production |
| GO:0032635 | interleukin-6 production |
| GO:0032637 | interleukin-8 production |
| GO:0032638 | interleukin-9 production |
| GO:0032640 | tumor necrosis factor production |
| GO:0032649 | regulation of interferon-gamma production |
| GO:0032689 | negative regulation of interferon-gamma production |
| GO:0032814 | regulation of natural killer cell activation |
| GO:0032816 | positive regulation of natural killer cell activation |
| GO:0032844 | regulation of homeostatic process |
| GO:0032879 | regulation of localization |
| GO:0032880 | regulation of protein localization |
| GO:0032940 | secretion by cell |
| GO:0032943 | mononuclear cell proliferation |
| GO:0032944 | regulation of mononuclear cell proliferation |
| GO:0032945 | negative regulation of mononuclear cell proliferation |
| GO:0032989 | cellular component morphogenesis |
| GO:0032991 | macromolecular complex |
| GO:0032997 | Fc receptor complex |
| GO:0033001 | Fc-gamma receptor III complex |
| GO:0033036 | macromolecule localization |
| GO:0033151 | V(D)J recombination |
| GO:0033152 | immunoglobulin V(D)J recombination |
| GO:0033363 | secretory granule organization |
| GO:0033365 | protein localization to organelle |
| GO:0033366 | protein localization to secretory granule |
| GO:0033371 | T cell secretory granule organization |
| GO:0033374 | protein localization to T cell secretory granule |
| GO:0033375 | protease localization to T cell secretory granule |
| GO:0033380 | granzyme B localization to T cell secretory granule |
| GO:0034101 | erythrocyte homeostasis |
| GO:0034102 | erythrocyte clearance |
| GO:0034613 | cellular protein localization |
| GO:0034641 | cellular nitrogen compound metabolic process |
| GO:0035010 | encapsulation of foreign target |
| GO:0035051 | cardiac cell differentiation |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0035082 | axoneme assembly |
| GO:0035084 | flagellar axoneme assembly |
| GO:0035369 | pre-B cell receptor complex |
| GO:0035710 | CD4-positive, alpha-beta T cell activation |
| GO:0035929 | steroid hormone secretion |
| GO:0035930 | corticosteroid hormone secretion |
| GO:0035931 | mineralocorticoid secretion |
| GO:0035933 | glucocorticoid secretion |
| GO:0035935 | androgen secretion |
| GO:0035936 | testosterone secretion |
| GO:0035937 | estrogen secretion |
| GO:0035938 | estradiol secretion |
| GO:0036160 | melanocyte-stimulating hormone secretion |
| GO:0036161 | calcitonin secretion |
| GO:0038023 | signaling receptor activity |
| GO:0038024 | cargo receptor activity |
| GO:0040011 | locomotion |
| GO:0040012 | regulation of locomotion |
| GO:0040017 | positive regulation of locomotion |
| GO:0042060 | wound healing |
| GO:0042088 | T-helper 1 type immune response |
| GO:0042092 | type 2 immune response |
| GO:0042093 | T-helper cell differentiation |
| GO:0042098 | T cell proliferation |
| GO:0042101 | T cell receptor complex |
| GO:0042105 | alpha-beta T cell receptor complex |
| GO:0042106 | gamma-delta T cell receptor complex |
| GO:0042110 | T cell activation |
| GO:0042113 | B cell activation |
| GO:0042127 | regulation of cell proliferation |
| GO:0042129 | regulation of T cell proliferation |
| GO:0042130 | negative regulation of T cell proliferation |
| GO:0042221 | response to chemical stimulus |
| GO:0042267 | natural killer cell mediated cytotoxicity |
| GO:0042303 | molting cycle |
| GO:0042330 | taxis |
| GO:0042470 | melanosome |
| GO:0042475 | odontogenesis of dentin-containing tooth |
| GO:0042476 | odontogenesis |
| GO:0042481 | regulation of odontogenesis |
| GO:0042483 | negative regulation of odontogenesis |
| GO:0042492 | gamma-delta T cell differentiation |
| GO:0042554 | superoxide anion generation |
| GO:0042571 | immunoglobulin complex, circulating |
| GO:0042582 | azurophil granule |
| GO:0042588 | zymogen granule |
| GO:0042589 | zymogen granule membrane |
| GO:0042590 | antigen processing and presentation of exogenous peptide antigen via MHC class I |
| GO:0042592 | homeostatic process |
| GO:0042611 | MHC protein complex |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0042613 | MHC class II protein complex |
| GO:0042633 | hair cycle |
| GO:0042638 | exogen |
| GO:0042692 | muscle cell differentiation |
| GO:0042698 | ovulation cycle |
| GO:0042701 | progesterone secretion |
| GO:0042742 | defense response to bacterium |
| GO:0042886 | amide transport |
| GO:0042981 | regulation of apoptotic process |
| GO:0042995 | cell projection |
| GO:0043011 | myeloid dendritic cell differentiation |
| GO:0043062 | extracellular structure organization |
| GO:0043064 | flagellum organization |
| GO:0043067 | regulation of programmed cell death |
| GO:0043129 | surfactant homeostasis |
| GO:0043133 | hindgut contraction |
| GO:0043134 | regulation of hindgut contraction |
| GO:0043170 | macromolecule metabolic process |
| GO:0043208 | glycosphingolipid binding |
| GO:0043226 | organelle |
| GO:0043227 | membrane–bounded organelle |
| GO:0043228 | non-membrane–bounded organelle |
| GO:0043229 | intracellular organelle |
| GO:0043231 | intracellular membrane–bounded organelle |
| GO:0043232 | intracellular non-membrane–bounded organelle |
| GO:0043233 | organelle lumen |
| GO:0043234 | protein complex |
| GO:0043235 | receptor complex |
| GO:0043277 | apoptotic cell clearance |
| GO:0043367 | CD4-positive, alpha-beta T cell differentiation |
| GO:0043368 | positive T cell selection |
| GO:0043370 | regulation of CD4-positive, alpha-beta T cell differentiation |
| GO:0043372 | positive regulation of CD4-positive, alpha-beta T cell differentiation |
| GO:0043384 | pre-T cell receptor complex |
| GO:0043436 | oxoacid metabolic process |
| GO:0044057 | regulation of system process |
| GO:0044058 | regulation of digestive system process |
| GO:0044085 | cellular component biogenesis |
| GO:0044237 | cellular metabolic process |
| GO:0044238 | primary metabolic process |
| GO:0044249 | cellular biosynthetic process |
| GO:0044260 | cellular macromolecule metabolic process |
| GO:0044272 | sulfur compound biosynthetic process |
| GO:0044281 | small molecule metabolic process |
| GO:0044283 | small molecule biosynthetic process |
| GO:0044421 | extracellular region part |
| GO:0044422 | organelle part |
| GO:0044424 | intracellular part |
| GO:0044425 | membrane part |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| GO:0044427 | chromosomal part |
| GO:0044428 | nuclear part |
| GO:0044433 | cytoplasmic vesicle part |
| GO:0044444 | cytoplasmic part |
| GO:0044446 | intracellular organelle part |
| GO:0044459 | plasma membrane part |
| GO:0044464 | cell part |
| GO:0044699 | single-organism process |
| GO:0044700 | single organism signaling |
| GO:0044702 | single organism reproductive process |
| GO:0044707 | single-mitochondrial organism process |
| GO:0044710 | single-organism metabolic process |
| GO:0044711 | single-organism biosynthetic process |
| GO:0044763 | single-organism cellular process |
| GO:0045058 | T cell selection |
| GO:0045063 | T-helper 1 cell differentiation |
| GO:0045064 | T-helper 2 cell differentiation |
| GO:0045087 | innate immune response |
| GO:0045137 | development of primary sexual characteristics |
| GO:0045184 | establishment of protein localization |
| GO:0045190 | isotype switching |
| GO:0045191 | regulation of isotype switching |
| GO:0045321 | leukocyte activation |
| GO:0045443 | juvenile hormone secretion |
| GO:0045444 | fat cell differentiation |
| GO:0045453 | bone resorption |
| GO:0045457 | ecdysteroid secretion |
| GO:0045580 | regulation of T cell differentiation |
| GO:0045582 | positive regulation of T cell differentiation |
| GO:0045595 | regulation of cell differentiation |
| GO:0045597 | positive regulation of cell differentiation |
| GO:0045619 | regulation of lymphocyte differentiation |
| GO:0045621 | positive regulation of lymphocyte differentiation |
| GO:0045622 | regulation of T-helper cell differentiation |
| GO:0045624 | positive regulation of T-helper cell differentiation |
| GO:0045625 | regulation of T-helper 1 cell differentiation |
| GO:0045627 | positive regulation of T-helper 1 cell differentiation |
| GO:0045628 | regulation of T-helper 2 cell differentiation |
| GO:0045630 | positive regulation of T-helper 2 cell differentiation |
| GO:0045730 | respiratory burst |
| GO:0045765 | regulation of angiogenesis |
| GO:0045766 | positive regulation of angiogenesis |
| GO:0045830 | positive regulation of isotype switching |
| GO:0045911 | positive regulation of DNA recombination |
| GO:0045935 | positive regulation of nucleobase-containing compound metabolic process |
| GO:0046394 | carboxylic acid biosynthetic process |
| GO:0046483 | heterocycle metabolic process |
| GO:0046545 | development of primary female sexual characteristics |
| GO:0046625 | sphingolipid binding |
| GO:0046629 | gamma-delta T cell activation |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0046631 | alpha-beta T cell activation |
| GO:0046632 | alpha-beta T cell differentiation |
| GO:0046634 | regulation of alpha-beta T cell activation |
| GO:0046635 | positive regulation of alpha-beta T cell activation |
| GO:0046637 | regulation of alpha-beta T cell differentiation |
| GO:0046638 | positive regulation of alpha-beta T cell differentiation |
| GO:0046649 | lymphocyte activation |
| GO:0046651 | lymphocyte proliferation |
| GO:0046660 | female sex differentiation |
| GO:0046849 | bone remodeling |
| GO:0046864 | isoprenoid transport |
| GO:0046865 | terpenoid transport |
| GO:0046879 | hormone secretion |
| GO:0046903 | secretion |
| GO:0048002 | antigen processing and presentation of peptide antigen |
| GO:0048103 | somatic stem cell division |
| GO:0048134 | germ-line cyst formation |
| GO:0048136 | male germ-line cyst formation |
| GO:0048137 | spermatocyte division |
| GO:0048232 | male gamete generation |
| GO:0048240 | sperm capacitation |
| GO:0048241 | epinephrine transport |
| GO:0048242 | epinephrine secretion |
| GO:0048243 | norepinephrine secretion |
| GO:0048285 | organelle fission |
| GO:0048289 | isotype switching to IgE isotypes |
| GO:0048293 | regulation of isotype switching to IgE isotypes |
| GO:0048295 | positive regulation of isotype switching to IgE isotypes |
| GO:0048305 | immunoglobulin secretion |
| GO:0048468 | cell development |
| GO:0048469 | cell maturation |
| GO:0048477 | oogenesis |
| GO:0048511 | rhythmic process |
| GO:0048513 | organ development |
| GO:0048514 | blood vessel morphogenesis |
| GO:0048515 | spermatid differentiation |
| GO:0048518 | positive regulation of biological process |
| GO:0048519 | negative regulation of biological process |
| GO:0048520 | positive regulation of behavior |
| GO:0048522 | positive regulation of cellular process |
| GO:0048523 | negative regulation of cellular process |
| GO:0048534 | hematopoietic or lymphoid organ development |
| GO:0048583 | regulation of response to stimulus |
| GO:0048584 | positive regulation of response to stimulus |
| GO:0048585 | negative regulation of response to stimulus |
| GO:0048608 | reproductive structure development |
| GO:0048609 | multicellular organismal reproductive process |
| GO:0048610 | cellular process involved in reproduction |
| GO:0048646 | anatomical structure formation involved in morphogenesis |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|---|
| GO:0048699 | generation of neurons |
| GO:0048731 | system development |
| GO:0048738 | cardiac muscle tissue development |
| GO:0048770 | pigment granule |
| GO:0048771 | tissue remodeling |
| GO:0048820 | hair follicle maturation |
| GO:0048856 | anatomical structure development |
| GO:0048869 | cellular developmental process |
| GO:0048870 | cell motility |
| GO:0048871 | multicellular organismal homeostasis |
| GO:0048872 | homeostasis of number of cells |
| GO:0048875 | chemical homeostasis within a tissue |
| GO:0048878 | chemical homeostasis |
| GO:0050432 | catecholamine secretion |
| GO:0050670 | regulation of lymphocyte proliferation |
| GO:0050672 | negative regulation of lymphocyte proliferation |
| GO:0050673 | epithelial cell proliferation |
| GO:0050678 | regulation of epithelial cell proliferation |
| GO:0050679 | positive regulation of epithelial cell proliferation |
| GO:0050708 | regulation of protein secretion |
| GO:0050714 | positive regulation of protein secretion |
| GO:0050727 | regulation of inflammatory response |
| GO:0050728 | negative regulation of inflammatory response |
| GO:0050729 | positive regulation of inflammatory response |
| GO:0050776 | regulation of immune response |
| GO:0050777 | negative regulation of immune response |
| GO:0050778 | positive regulation of immune response |
| GO:0050789 | regulation of biological process |
| GO:0050793 | regulation of developmental process |
| GO:0050794 | regulation of cellular process |
| GO:0050795 | regulation of behavior |
| GO:0050817 | coagulation |
| GO:0050863 | regulation of T cell activation |
| GO:0050864 | regulation of B cell activation |
| GO:0050865 | regulation of cell activation |
| GO:0050866 | negative regulation of cell activation |
| GO:0050867 | positive regulation of cell activation |
| GO:0050868 | negative regulation of T cell activation |
| GO:0050870 | positive regulation of T cell activation |
| GO:0050871 | positive regulation of B cell activation |
| GO:0050877 | neurological system process |
| GO:0050878 | regulation of body fluid levels |
| GO:0050886 | endocrine process |
| GO:0050896 | response to stimulus |
| GO:0050900 | leukocyte migration |
| GO:0050906 | detection of stimulus involved in sensory perception |
| GO:0050907 | detection of chemical stimulus involved in sensory perception |
| GO:0050908 | detection of light stimulus involved in visual perception |
| GO:0050909 | sensory perception of taste |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0050910 | detection of mechanical stimulus involved in sensory perception of sound |
| GO:0050911 | detection of chemical stimulus involved in sensory perception of smell |
| GO:0050912 | detection of chemical stimulus involved in sensory perception of taste |
| GO:0050920 | regulation of chemotaxis |
| GO:0050921 | positive regulation of chemotaxis |
| GO:0050951 | sensory perception of temperature stimulus |
| GO:0050953 | sensory perception of light stimulus |
| GO:0050954 | sensory perception of mechanical stimulus |
| GO:0050955 | thermoception |
| GO:0050960 | detection of temperature stimulus involved in thermoception |
| GO:0050961 | detection of temperature stimulus involved in sensory perception |
| GO:0050962 | detection of light stimulus involved in sensory perception |
| GO:0050974 | detection of mechanical stimulus involved in sensory perception |
| GO:0050975 | sensory perception of touch |
| GO:0050976 | detection of mechanical stimulus involved in sensory perception of touch |
| GO:0050982 | detection of mechanical stimulus |
| GO:0051023 | regulation of immunoglobulin secretion |
| GO:0051024 | positive regulation of immunoglobulin secretion |
| GO:0051046 | regulation of secretion |
| GO:0051047 | positive regulation of secretion |
| GO:0051049 | regulation of transport |
| GO:0051050 | positive regulation of transport |
| GO:0051052 | regulation of DNA metabolic process |
| GO:0051054 | positive regulation of DNA metabolic process |
| GO:0051093 | negative regulation of developmental process |
| GO:0051094 | positive regulation of developmental process |
| GO:0051132 | NK T cell activation |
| GO:0051146 | striated muscle cell differentiation |
| GO:0051171 | regulation of nitrogen compound metabolic process |
| GO:0051173 | positive regulation of nitrogen compound metabolic process |
| GO:0051179 | localization |
| GO:0051216 | cartilage development |
| GO:0051222 | positive regulation of protein transport |
| GO:0051223 | regulation of protein transport |
| GO:0051234 | establishment of localization |
| GO:0051239 | regulation of multicellular organismal process |
| GO:0051241 | negative regulation of multicellular organismal process |
| GO:0051249 | regulation of lymphocyte activation |
| GO:0051250 | negative regulation of lymphocyte activation |
| GO:0051251 | positive regulation of lymphocyte activation |
| GO:0051270 | regulation of cellular component movement |

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Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0051272 | positive regulation of cellular component movement |
| GO:0051276 | chromosome organization |
| GO:0051301 | cell division |
| GO:0051321 | meiotic cell cycle |
| GO:0051327 | M phase of meiotic cell cycle |
| GO:0051458 | corticotropin secretion |
| GO:0051606 | detection of stimulus |
| GO:0051641 | cellular localization |
| GO:0051649 | establishment of localization in cell |
| GO:0051674 | localization of cell |
| GO:0051704 | multi-organism process |
| GO:0051707 | response to other organism |
| GO:0051716 | cellular response to stimulus |
| GO:0051768 | nitric-oxide synthase 2 biosynthetic process |
| GO:0051861 | glycolipid binding |
| GO:0051937 | catecholamine transport |
| GO:0055007 | cardiac muscle cell differentiation |
| GO:0060054 | positive regulation of epithelial cell proliferation involved in wound healing |
| GO:0060089 | molecular transducer activity |
| GO:0060249 | anatomical structure homeostasis |
| GO:0060255 | regulation of macromolecule metabolic process |
| GO:0060326 | cell chemotaxis |
| GO:0060341 | regulation of cellular localization |
| GO:0060374 | mast cell differentiation |
| GO:0060429 | epithelium development |
| GO:0060537 | muscle tissue development |
| GO:0060591 | chondroblast differentiation |
| GO:0060986 | endocrine hormone secretion |
| GO:0061061 | muscle structure development |
| GO:0061448 | connective tissue development |
| GO:0061458 | reproductive system development |
| GO:0065007 | biological regulation |
| GO:0065008 | regulation of biological quality |
| GO:0070013 | intracellular organelle lumen |
| GO:0070091 | glucagon secretion |
| GO:0070201 | regulation of establishment of protein localization |
| GO:0070227 | lymphocyte apoptotic process |
| GO:0070228 | regulation of lymphocyte apoptotic process |
| GO:0070253 | somatostatin secretion |
| GO:0070254 | mucus secretion |
| GO:0070278 | extracellular matrix constituent secretion |
| GO:0070459 | prolactin secretion |
| GO:0070460 | thyroid-stimulating hormone secretion |
| GO:0070661 | leukocyte proliferation |
| GO:0070663 | regulation of leukocyte proliferation |
| GO:0070664 | negative regulation of leukocyte proliferation |
| GO:0070727 | cellular macromolecule localization |
| GO:0070820 | tertiary granule |
| GO:0070887 | cellular response to chemical stimulus |
| GO:0070925 | organelle assembly |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|------------|--|
| GO:0070998 | sensory perception of gravity |
| GO:0070999 | detection of mechanical stimulus involved in sensory perception of gravity |
| GO:0071103 | DNA conformation change |
| GO:0071695 | Anatomical structure maturation |
| GO:0071702 | organic substance transport |
| GO:0071704 | organic substance metabolic process |
| GO:0071705 | nitrogen compound transport |
| GO:0071706 | tumor necrosis factor superfamily cytokine production |
| GO:0071707 | immunoglobulin heavy chain V-D-J recombination |
| GO:0071708 | immunoglobulin light chain V-J recombination |
| GO:0071735 | IgG immunoglobulin complex |
| GO:0071736 | IgG immunoglobulin complex, circulating |
| GO:0071738 | IgD immunoglobulin complex |
| GO:0071739 | IgD immunoglobulin complex, circulating |
| GO:0071742 | IgE immunoglobulin complex |
| GO:0071743 | IgE immunoglobulin complex, circulating |
| GO:0071745 | IgA immunoglobulin complex |
| GO:0071746 | IgA immunoglobulin complex, circulating |
| GO:0071753 | IgM immunoglobulin complex |
| GO:0071754 | IgM immunoglobulin complex, circulating |
| GO:0071840 | cellular component organization or biogenesis |
| GO:0071887 | leukocyte apoptotic process |
| GO:0071944 | cell periphery |
| GO:0071971 | extracellular vesicular exosome assembly |
| GO:0072358 | cardiovascular system development |
| GO:0072359 | circulatory system development |
| GO:0072593 | reactive oxygen species metabolic process |
| GO:0080090 | regulation of primary metabolic process |
| GO:0080134 | regulation of response to stress |
| GO:0090022 | regulation of neutrophil chemotaxis |
| GO:0090023 | positive regulation of neutrophil chemotaxis |
| GO:0090257 | regulation of muscle system process |
| GO:0090304 | nucleic acid metabolic process |
| GO:0097186 | amelogenesis |
| GO:0097194 | execution phase of apoptosis |
| GO:0097285 | cell-type specific apoptotic process |
| GO:1901135 | carbohydrate derivative metabolic process |
| GO:1901137 | carbohydrate derivative biosynthetic process |
| GO:1901342 | regulation of vasculature development |
| GO:1901360 | organic cyclic compound metabolic process |
| GO:1901564 | organonitrogen compound metabolic process |
| GO:1901566 | organonitrogen compound biosynthetic process |
| GO:1901576 | organic substance biosynthetic process |
| GO:1901605 | alpha-amino acid metabolic process |
| GO:1901607 | alpha-amino acid biosynthetic process |
| GO:2000026 | regulation of multicellular organismal development |
| GO:2000027 | regulation of organ morphogenesis |
| GO:2000106 | regulation of leukocyte apoptotic process |
| GO:2000145 | regulation of cell motility |
| GO:2000147 | positive regulation of cell motility |

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Table A.3.1 – continued from previous page

| Key | Description |
|--------------|---|
| GO:2000514 | regulation of CD4-positive, alpha-beta T cell activation |
| GO:2000516 | positive regulation of CD4-positive, alpha-beta T cell activation |
| PATO:0000001 | quality |
| PATO:0000050 | life span |
| PATO:0000051 | morphology |
| PATO:0000052 | shape |
| PATO:0000068 | qualitative |
| PATO:0000069 | deviation(from_normal) |
| PATO:0000117 | size |
| PATO:0000165 | time |
| PATO:0000261 | maturity |
| PATO:0000406 | curved |
| PATO:0000411 | circular |
| PATO:0000461 | normal |
| PATO:0000586 | increased size |
| PATO:0000587 | decreased size |
| PATO:0000947 | elliptic |
| PATO:0001018 | physical quality |
| PATO:0001241 | physical object quality |
| PATO:0001374 | ploidy |
| PATO:0001375 | haploid |
| PATO:0001393 | euploid |
| PATO:0001394 | diploid |
| PATO:0001396 | cellular quality |
| PATO:0001397 | cellular potency |
| PATO:0001400 | unipotent |
| PATO:0001401 | oligopotent |
| PATO:0001402 | multipotent |
| PATO:0001404 | nucleate quality |
| PATO:0001405 | anucleate |
| PATO:0001406 | binucleate |
| PATO:0001407 | mononucleate |
| PATO:0001501 | immature |
| PATO:0001591 | curvature |
| PATO:0001604 | decreased life span |
| PATO:0001789 | domed |
| PATO:0001857 | concave |
| PATO:0001871 | reniform |
| PATO:0001873 | cylindrical |
| PATO:0001874 | discoid |
| PATO:0001908 | multinucleate |
| PATO:0001979 | lobed |
| PATO:0001995 | organismal quality |
| PATO:0002005 | concavity |
| PATO:0002006 | 2-D shape |
| PATO:0002007 | convex 3-D shape |
| PATO:0002008 | concave 3-D shape |
| PATO:0002039 | biconcave |
| PATO:0002070 | affinity |

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Table A.3.1 – continued from previous page

| Key | Description |
|--------------|---|
| PATO:0002094 | basophilic |
| PATO:0002182 | molecular quality |
| PATO:0002266 | 3-D shape |
| PATO:0002300 | increased quality |
| PATO:0002301 | decreased quality |
| PATO:0002303 | decreased object quality |
| PATO:0002305 | increased object quality |
| PATO:0002318 | superelliptic |
| PR:000000001 | protein |
| PR:000001002 | CD19 molecule |
| PR:000001003 | CD34 molecule |
| PR:000001004 | CD4 molecule |
| PR:000001005 | integrin alpha with A domain |
| PR:000001006 | receptor-type tyrosine-protein phosphatase C |
| PR:000001008 | integrin alpha-2 |
| PR:000001010 | integrin alpha-E |
| PR:000001012 | integrin alpha-M |
| PR:000001013 | integrin alpha-X |
| PR:000001014 | receptor-type tyrosine-protein phosphatase C isoform CD45R |
| PR:000001015 | receptor-type tyrosine-protein phosphatase C isoform CD45RA |
| PR:000001017 | receptor-type tyrosine-protein phosphatase C isoform CD45RO |
| PR:000001018 | CD3 subunit with immunoglobulin domain |
| PR:000001020 | CD3 epsilon |
| PR:000001022 | neural cell adhesion molecule |
| PR:000001023 | neural cell adhesion molecule NCAM |
| PR:000001024 | neural cell adhesion molecule 1 |
| PR:000001025 | C-type lectin with multiple lectin domains |
| PR:000001026 | lymphocyte antigen 75 |
| PR:000001083 | CD2 molecule |
| PR:000001084 | T-cell surface glycoprotein CD8 alpha chain |
| PR:000001094 | rhodopsin-like G-protein coupled receptor |
| PR:000001128 | chemokine receptor |
| PR:000001197 | chemokine receptor CCR1/3/1L |
| PR:000001199 | C-C chemokine receptor type 2 |
| PR:000001201 | C-C chemokine receptor type 5 |
| PR:000001202 | C-C chemokine receptor type 6 |
| PR:000001203 | C-C chemokine receptor type 7 |
| PR:000001206 | CX3C chemokine receptor 1 |
| PR:000001207 | C-X-C chemokine receptor type 3 |
| PR:000001208 | C-X-C chemokine receptor type 4 |
| PR:000001209 | C-X-C chemokine receptor type 5 |
| PR:000001226 | high affinity interleukin-8 receptor |
| PR:000001254 | chemokine receptor CCR1 |
| PR:000001255 | chemokine receptor CCR3 |
| PR:000001256 | high affinity interleukin-8 receptor A |
| PR:000001257 | high affinity interleukin-8 receptor B |
| PR:000001281 | ADP-ribosyl cyclase |
| PR:000001288 | B-cell receptor CD22 |

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Table A.3.1 – continued from previous page

| Key | Description |
|--------------|--|
| PR:000001289 | membrane-spanning 4-domains subfamily A member 1 |
| PR:000001290 | B7-related protein |
| PR:000001292 | C-type lectin domain family 4 member C |
| PR:000001293 | C-type lectin domain family 4 member K |
| PR:000001300 | CD209 molecule |
| PR:000001307 | CD44 molecule |
| PR:000001308 | CD48 molecule |
| PR:000001310 | CD83 molecule |
| PR:000001318 | L-selectin |
| PR:000001319 | SLAM family member 5 |
| PR:000001320 | alpha-(1,3)-fucosyltransferase |
| PR:000001326 | bone marrow stromal antigen 2 |
| PR:000001327 | cadherin |
| PR:000001332 | carcinoembryonic antigen-related cell adhesion molecule 8 |
| PR:000001337 | complement receptor type 1 |
| PR:000001338 | complement receptor type 2 |
| PR:000001343 | CD69 molecule |
| PR:000001344 | ectonucleotide pyrophosphatase/phosphodiesterase family member 3 |
| PR:000001345 | endoglin |
| PR:000001350 | forkhead box protein P3 |
| PR:000001352 | glycophorin |
| PR:000001355 | immunoglobulin gamma Fc receptor II/III/IV |
| PR:000001356 | immunoglobulin gamma Fc receptor I |
| PR:000001380 | interleukin-2 receptor subunit alpha |
| PR:000001381 | interleukin-2 receptor subunit beta |
| PR:000001398 | leukocyte immunoglobulin-like receptor subfamily A member 4 |
| PR:000001402 | killer cell lectin-like receptor subfamily D member 1 |
| PR:000001403 | tetraspanin |
| PR:000001408 | ADP-ribosyl cyclase 1 |
| PR:000001412 | CD86 molecule |
| PR:000001431 | N-formyl peptide receptor |
| PR:000001438 | CD80 molecule |
| PR:000001444 | cadherin-5 |
| PR:000001447 | epithelial cadherin |
| PR:000001456 | alpha-(1,3)-fucosyltransferase FUT4 |
| PR:000001460 | glycophorin-A |
| PR:000001465 | high affinity immunoglobulin gamma Fc receptor I |
| PR:000001479 | low affinity immunoglobulin gamma Fc region receptor II |
| PR:000001481 | low affinity immunoglobulin gamma Fc region receptor II-b |
| PR:000001483 | low affinity immunoglobulin gamma Fc region receptor III |
| PR:000001580 | fMet-Leu-Phe receptor |
| PR:000001753 | transcription factor NF-kappa-B |
| PR:000001785 | prominin |
| PR:000001786 | prominin-1 |
| PR:000001800 | 5'-nucleotidase |

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Table A.3.1 – continued from previous page

| Key | Description |
|--------------|---|
| PR:000001806 | C-type lectin domain family 6 member A |
| PR:000001807 | C-type lectin domain family 7 member A |
| PR:000001809 | CD59-like glycoprotein |
| PR:000001810 | CSF-1/PDGF receptor-type tyrosine-protein kinase |
| PR:000001813 | EGF-like module-containing mucin-like hormone receptor-like 1 |
| PR:000001832 | SIRP/SHPS-1 family protein |
| PR:000001833 | SLAM family member 1 |
| PR:000001835 | T-box transcription factor TBX21 |
| PR:000001836 | CD7 molecule |
| PR:000001838 | T-cell surface glycoprotein CD1 |
| PR:000001839 | T-cell surface glycoprotein CD5 |
| PR:000001841 | T-cell-specific surface glycoprotein CD28 |
| PR:000001843 | Thy-1 membrane glycoprotein |
| PR:000001844 | arginase-1 |
| PR:000001850 | cathepsin K |
| PR:000001852 | cytotoxic T-lymphocyte protein 4 |
| PR:000001858 | immunoglobulin iota chain |
| PR:000001859 | immunoglobulin lambda-like polypeptide 1 |
| PR:000001860 | inducible T-cell costimulator |
| PR:000001861 | integrin beta |
| PR:000001865 | interleukin-3 receptor class 2 alpha chain |
| PR:000001867 | interleukin-5 receptor subunit alpha |
| PR:000001869 | interleukin-7 receptor subunit alpha |
| PR:000001874 | KLRB1-like protein |
| PR:000001879 | leukosialin |
| PR:000001880 | low affinity immunoglobulin epsilon Fc receptor |
| PR:000001883 | lysosome-associated membrane protein |
| PR:000001884 | macrophage receptor MARCO |
| PR:000001885 | macrophage scavenger receptor types I and II |
| PR:000001888 | membrane alanyl aminopeptidase-like metallopeptidase |
| PR:000001889 | CD14 molecule |
| PR:000001892 | CD33 molecule |
| PR:000001893 | natural cytotoxicity triggering receptor 1 |
| PR:000001896 | natural killer cell receptor 2B4 |
| PR:000001897 | natural killer cell receptor NKG2 |
| PR:000001898 | nephrilysin |
| PR:000001902 | nuclear receptor ROR-gamma |
| PR:000001903 | paired box protein PAX-5 |
| PR:000001905 | platelet glycoprotein 4 |
| PR:000001907 | platelet glycoprotein Ib alpha chain |
| PR:000001919 | programmed cell death protein 1 |
| PR:000001925 | scavenger receptor cysteine-rich type 1 protein M130 |
| PR:000001927 | sialic acid-binding Ig-like lectin 5 |
| PR:000001931 | sialoadhesin |
| PR:000001932 | signal transducer CD24 |
| PR:000001935 | syndecan-1 |
| PR:000001937 | tartrate-resistant acid phosphatase type 5 |
| PR:000001938 | thrombomodulin-like receptor |

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Table A.3.1 – continued from previous page

| Key | Description |
|--------------|--|
| PR:000001941 | trans-acting T-cell-specific transcription factor GATA-3 |
| PR:000001944 | transcription factor PU.1 |
| PR:000001945 | transferrin receptor protein 1 |
| PR:000001950 | tumor necrosis factor ligand superfamily member 5 |
| PR:000001954 | tumor necrosis factor receptor superfamily member 11A |
| PR:000001963 | CD27 molecule |
| PR:000001968 | tyrosine-protein phosphatase non-receptor type substrate 1 |
| PR:000001969 | urokinase plasminogen activator surface receptor |
| PR:000001971 | vascular endothelial growth factor receptor |
| PR:000002001 | FL cytokine receptor |
| PR:000002023 | NKG2-A/NKG2-B type II integral membrane protein |
| PR:000002025 | T-cell surface glycoprotein CD1a |
| PR:000002027 | T-cell surface glycoprotein CD1c |
| PR:000002028 | T-cell surface glycoprotein CD1d |
| PR:000002031 | aminopeptidase N |
| PR:000002037 | complement component C1q receptor |
| PR:000002039 | glutamyl aminopeptidase |
| PR:000002062 | macrophage colony-stimulating factor 1 receptor |
| PR:000002064 | macrosialin |
| PR:000002065 | mast/stem cell growth factor receptor |
| PR:000002105 | thrombomodulin |
| PR:000002112 | vascular endothelial growth factor receptor 2 |
| PR:000002972 | macrophage mannose receptor 1 |
| PR:000002976 | ly-6-like protein |
| PR:000002977 | killer cell lectin-like receptor subfamily B member 1C |
| PR:000002978 | lymphocyte antigen 6G |
| PR:000002979 | lymphocyte antigen 6A-2/6E-1 |
| PR:000002980 | lymphocyte antigen 6C |
| PR:000002981 | lymphocyte antigen 76 |
| PR:000003450 | B-cell lymphoma 6 protein |
| PR:000003455 | nuclear receptor ROR-gamma isoform 2 |
| PR:000003457 | V(D)J recombination-activating protein 1 |
| PR:000003460 | V(D)J recombination-activating protein 2 |
| PR:000003463 | eomesodermin |
| PR:000003466 | perforin-1 |
| PR:000003469 | early growth response protein 2 |
| PR:000003499 | granzyme B |
| PR:000003505 | leukocyte granule-associated proteinase |
| PR:000003506 | T-brain transcription factor |
| PR:000003516 | lactosylceramide 4-alpha-galactosyltransferase |
| PR:000005178 | CD9 molecule |
| PR:000005307 | CCAAT/enhancer-binding protein alpha |
| PR:000005310 | CCAAT/enhancer-binding protein epsilon |
| PR:000006169 | cell surface glycoprotein CD200 receptor 3 |
| PR:000006172 | CD209 molecule-like protein B |
| PR:000006611 | DNA nucleotidyltransferase |
| PR:000007152 | eosinophil peroxidase |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---|
| PR:000007431 | high affinity immunoglobulin epsilon receptor subunit alpha |
| PR:000007597 | proto-oncogene c-Fos |
| PR:000007857 | erythroid transcription factor |
| PR:000007858 | endothelial transcription factor GATA-2 |
| PR:000007939 | glial fibrillary acidic protein |
| PR:000008467 | hemoglobin subunit zeta |
| PR:000008857 | hemoglobin subunit beta-1 |
| PR:000008982 | interleukin-17 receptor B |
| PR:000008994 | interleukin-1 receptor-like 1 |
| PR:000009127 | integrin alpha-IIb |
| PR:000009129 | integrin alpha-4 |
| PR:000009143 | integrin beta-7 |
| PR:000009616 | T-cell surface glycoprotein YE1/48 |
| PR:000009618 | killer cell lectin-like receptor 3 |
| PR:000009619 | killer cell lectin-like receptor 4 |
| PR:000009623 | killer cell lectin-like receptor 8 |
| PR:000009725 | neutrophil gelatinase-associated lipocalin |
| PR:000009766 | galectin-1 |
| PR:000009978 | lactotransferrin |
| PR:000010329 | tyrosine-protein kinase Mer |
| PR:000010543 | myeloperoxidase |
| PR:000010799 | myb proto-oncogene protein |
| PR:000011178 | nuclear factor NF-kappa-B p100 subunit |
| PR:000014046 | non-secretory ribonuclease |
| PR:000014047 | eosinophil cationic protein |
| PR:000014362 | runt-related transcription factor 1 |
| PR:000016043 | T-cell acute lymphocytic leukemia protein 1 |
| PR:000016401 | transmembrane emp24 domain-containing protein 1 |
| PR:000018263 | amino acid chain |
| PR:000018264 | proteolytic cleavage product |
| PR:000021082 | bone marrow proteoglycan proteolytic cleavage product |
| PR:000022006 | eosinophil granule major basic protein |
| PR:000025402 | T cell receptor co-receptor CD8 |
| PR:000025403 | T-cell surface glycoprotein CD8 alpha chain isoform 1 |
| PR:000025796 | integrin alpha |
| PR:000025797 | integrin alpha lacking A domain |
| UBERON:0000002 | uterine cervix |
| UBERON:0000004 | olfactory apparatus |
| UBERON:0000006 | islet of Langerhans |
| UBERON:0000007 | pituitary gland |
| UBERON:0000009 | submucosa |
| UBERON:0000010 | peripheral nervous system |
| UBERON:0000015 | anatomical boundary |
| UBERON:0000016 | endocrine pancreas |
| UBERON:0000017 | exocrine pancreas |
| UBERON:0000019 | camera-type eye |
| UBERON:0000020 | sense organ |
| UBERON:0000025 | tube |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|--|
| UBERON:0000029 | lymph node |
| UBERON:0000030 | lamina propria |
| UBERON:0000033 | head |
| UBERON:0000042 | serous membrane |
| UBERON:0000043 | tendon |
| UBERON:0000044 | dorsal root ganglion |
| UBERON:0000045 | ganglion |
| UBERON:0000047 | simple eye |
| UBERON:0000054 | macula |
| UBERON:0000055 | vessel |
| UBERON:0000056 | ureter |
| UBERON:0000057 | urethra |
| UBERON:0000058 | duct |
| UBERON:0000059 | large intestine |
| UBERON:0000060 | anatomical wall |
| UBERON:0000061 | anatomical structure |
| UBERON:0000062 | organ |
| UBERON:0000063 | organ segment |
| UBERON:0000064 | organ part |
| UBERON:0000065 | respiratory tract |
| UBERON:0000072 | segment of respiratory tract |
| UBERON:0000073 | regional part of nervous system |
| UBERON:0000074 | renal glomerulus |
| UBERON:0000075 | subdivision of skeletal system |
| UBERON:0000076 | external ectoderm |
| UBERON:0000077 | mixed endoderm/mesoderm-derived structure |
| UBERON:0000078 | mixed ectoderm/mesoderm/endoderm-derived structure |
| UBERON:0000079 | male reproductive system |
| UBERON:0000080 | mesonephros |
| UBERON:0000083 | mesonephric tubule |
| UBERON:0000084 | ureteric bud |
| UBERON:0000085 | morula |
| UBERON:0000087 | inner cell mass |
| UBERON:0000091 | bilaminar disc |
| UBERON:0000094 | membrane organ |
| UBERON:0000102 | lung vasculature |
| UBERON:0000115 | lung epithelium |
| UBERON:0000117 | respiratory tube |
| UBERON:0000118 | lung bud |
| UBERON:0000119 | cell layer |
| UBERON:0000121 | perineurium |
| UBERON:0000122 | neuron projection bundle |
| UBERON:0000125 | neural nucleus |
| UBERON:0000153 | anterior region of body |
| UBERON:0000158 | membranous layer |
| UBERON:0000160 | intestine |
| UBERON:0000162 | cloaca |
| UBERON:0000163 | embryonic cloaca |
| UBERON:0000164 | primitive urogenital sinus |
| UBERON:0000165 | mouth |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|-------------------------------|
| UBERON:0000168 | segment of colon |
| UBERON:0000170 | pair of lungs |
| UBERON:0000171 | respiration organ |
| UBERON:0000173 | amniotic fluid |
| UBERON:0000178 | blood |
| UBERON:0000179 | haemolymphatic fluid |
| UBERON:0000203 | pallium |
| UBERON:0000204 | ventral part of telencephalon |
| UBERON:0000211 | ligament |
| UBERON:0000305 | amnion |
| UBERON:0000307 | blastula |
| UBERON:0000310 | breast |
| UBERON:0000325 | gastric gland |
| UBERON:0000333 | intestinal gland |
| UBERON:0000344 | mucosa |
| UBERON:0000349 | limbic system |
| UBERON:0000353 | parenchyma |
| UBERON:0000358 | blastocyst |
| UBERON:0000362 | renal medulla |
| UBERON:0000365 | urothelium |
| UBERON:0000369 | corpus striatum |
| UBERON:0000379 | tracheal mucosa |
| UBERON:0000383 | musculature of body |
| UBERON:0000397 | colonic epithelium |
| UBERON:0000410 | bronchial mucosa |
| UBERON:0000412 | dermal papilla |
| UBERON:0000414 | mucous gland |
| UBERON:0000415 | artery wall |
| UBERON:0000428 | prostate epithelium |
| UBERON:0000444 | lymphoid follicle |
| UBERON:0000454 | cerebral subcortex |
| UBERON:0000458 | endocervix |
| UBERON:0000459 | uterine wall |
| UBERON:0000463 | portion of organism substance |
| UBERON:0000464 | anatomical space |
| UBERON:0000465 | material anatomical entity |
| UBERON:0000466 | immaterial anatomical entity |
| UBERON:0000467 | anatomical system |
| UBERON:0000468 | multi-cellular organism |
| UBERON:0000470 | cell part |
| UBERON:0000471 | compound organ component |
| UBERON:0000473 | testis |
| UBERON:0000474 | female reproductive system |
| UBERON:0000475 | organism subdivision |
| UBERON:0000477 | anatomical cluster |
| UBERON:0000478 | extraembryonic structure |
| UBERON:0000479 | tissue |
| UBERON:0000480 | anatomical group |
| UBERON:0000481 | multi-tissue structure |
| UBERON:0000483 | epithelium |
| UBERON:0000484 | simple cuboidal epithelium |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|----------------------------|
| UBERON:0000485 | simple columnar epithelium |
| UBERON:0000486 | multilaminar epithelium |
| UBERON:0000487 | simple squamous epithelium |
| UBERON:0000488 | atypical epithelium |
| UBERON:0000489 | cavitated compound organ |
| UBERON:0000490 | unilaminar epithelium |
| UBERON:0000915 | thoracic segment of trunk |
| UBERON:0000916 | abdomen |
| UBERON:0000922 | embryo |
| UBERON:0000923 | germ layer |
| UBERON:0000924 | ectoderm |
| UBERON:0000925 | endoderm |
| UBERON:0000926 | mesoderm |
| UBERON:0000930 | stomodeum |
| UBERON:0000931 | proctodeum |
| UBERON:0000945 | stomach |
| UBERON:0000947 | aorta |
| UBERON:0000948 | heart |
| UBERON:0000949 | endocrine system |
| UBERON:0000955 | brain |
| UBERON:0000956 | cerebral cortex |
| UBERON:0000958 | medulla |
| UBERON:0000964 | cornea |
| UBERON:0000965 | lens of camera-type eye |
| UBERON:0000966 | retina |
| UBERON:0000970 | eye |
| UBERON:0000974 | neck |
| UBERON:0000977 | pleura |
| UBERON:0000982 | skeletal joint |
| UBERON:0000990 | reproductive system |
| UBERON:0000991 | gonad |
| UBERON:0000992 | female gonad |
| UBERON:0000995 | uterus |
| UBERON:0000996 | vagina |
| UBERON:0001003 | epidermis |
| UBERON:0001004 | respiratory system |
| UBERON:0001005 | respiratory airway |
| UBERON:0001007 | digestive system |
| UBERON:0001008 | excretory system |
| UBERON:0001009 | circulatory system |
| UBERON:0001013 | adipose tissue |
| UBERON:0001015 | musculature |
| UBERON:0001016 | nervous system |
| UBERON:0001017 | central nervous system |
| UBERON:0001021 | nerve |
| UBERON:0001023 | dendrite |
| UBERON:0001024 | neurite |
| UBERON:0001032 | sensory system |
| UBERON:0001040 | yolk sac |
| UBERON:0001041 | foregut |
| UBERON:0001042 | chordate pharynx |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---------------------------------|
| UBERON:0001043 | esophagus |
| UBERON:0001044 | salivary gland |
| UBERON:0001045 | midgut |
| UBERON:0001046 | hindgut |
| UBERON:0001048 | primordium |
| UBERON:0001049 | neural tube |
| UBERON:0001052 | rectum |
| UBERON:0001062 | anatomical entity |
| UBERON:0001064 | ventral pancreatic duct |
| UBERON:0001066 | intervertebral disk |
| UBERON:0001091 | calcareous tooth |
| UBERON:0001096 | wall of esophagus |
| UBERON:0001130 | vertebral column |
| UBERON:0001132 | parathyroid gland |
| UBERON:0001133 | cardiac muscle tissue |
| UBERON:0001134 | skeletal muscle tissue |
| UBERON:0001135 | smooth muscle tissue |
| UBERON:0001136 | mesothelium |
| UBERON:0001137 | dorsum |
| UBERON:0001140 | renal vein |
| UBERON:0001153 | caecum |
| UBERON:0001154 | vermiform appendix |
| UBERON:0001155 | colon |
| UBERON:0001156 | ascending colon |
| UBERON:0001157 | transverse colon |
| UBERON:0001158 | descending colon |
| UBERON:0001159 | sigmoid colon |
| UBERON:0001160 | fundus of stomach |
| UBERON:0001162 | cardia of stomach |
| UBERON:0001166 | pylorus |
| UBERON:0001167 | wall of stomach |
| UBERON:0001168 | wall of small intestine |
| UBERON:0001169 | wall of large intestine |
| UBERON:0001173 | biliary tree |
| UBERON:0001178 | visceral peritoneum |
| UBERON:0001179 | peritoneal cavity |
| UBERON:0001199 | mucosa of stomach |
| UBERON:0001204 | mucosa of small intestine |
| UBERON:0001205 | submucosa of small intestine |
| UBERON:0001207 | mucosa of large intestine |
| UBERON:0001211 | Peyer's patch |
| UBERON:0001212 | duodenal gland |
| UBERON:0001213 | intestinal villus |
| UBERON:0001224 | renal pelvis |
| UBERON:0001225 | cortex of kidney |
| UBERON:0001228 | renal papilla |
| UBERON:0001229 | renal corpuscle |
| UBERON:0001230 | glomerular capsule |
| UBERON:0001231 | nephron tubule |
| UBERON:0001232 | collecting duct of renal tubule |
| UBERON:0001235 | adrenal cortex |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---------------------------------------|
| UBERON:0001236 | adrenal medulla |
| UBERON:0001237 | paraaortic body |
| UBERON:0001238 | lamina propria of small intestine |
| UBERON:0001242 | intestinal mucosa |
| UBERON:0001249 | spleen lymphoid follicle |
| UBERON:0001250 | red pulp of spleen |
| UBERON:0001251 | marginal zone of spleen |
| UBERON:0001252 | adventitia of ureter |
| UBERON:0001254 | urothelium of ureter |
| UBERON:0001255 | urinary bladder |
| UBERON:0001256 | wall of urinary bladder |
| UBERON:0001257 | trigone of urinary bladder |
| UBERON:0001259 | mucosa of urinary bladder |
| UBERON:0001262 | wall of intestine |
| UBERON:0001263 | pancreatic acinus |
| UBERON:0001264 | pancreas |
| UBERON:0001266 | splenic cord |
| UBERON:0001276 | epithelium of stomach |
| UBERON:0001277 | intestinal epithelium |
| UBERON:0001278 | epithelium of large intestine |
| UBERON:0001280 | liver parenchyma |
| UBERON:0001281 | hepatic sinusoid |
| UBERON:0001285 | nephron |
| UBERON:0001287 | proximal convoluted tubule |
| UBERON:0001288 | loop of Henle |
| UBERON:0001289 | descending limb of loop of Henle |
| UBERON:0001290 | proximal straight tubule |
| UBERON:0001291 | thick ascending limb of loop of Henle |
| UBERON:0001292 | distal convoluted tubule |
| UBERON:0001293 | outer medulla of kidney |
| UBERON:0001294 | inner medulla of kidney |
| UBERON:0001296 | myometrium |
| UBERON:0001305 | ovarian follicle |
| UBERON:0001310 | umbilical artery |
| UBERON:0001343 | seminiferous tubule of testis |
| UBERON:0001347 | white adipose tissue |
| UBERON:0001348 | brown adipose tissue |
| UBERON:0001351 | lacrimal sac |
| UBERON:0001352 | external acoustic meatus |
| UBERON:0001353 | anal region |
| UBERON:0001366 | parietal peritoneum |
| UBERON:0001434 | skeletal system |
| UBERON:0001443 | chest |
| UBERON:0001444 | subdivision of head |
| UBERON:0001456 | face |
| UBERON:0001468 | intervertebral joint |
| UBERON:0001473 | lymphatic vessel |
| UBERON:0001474 | bone |
| UBERON:0001515 | thoracic aorta |
| UBERON:0001529 | brachiocephalic artery |
| UBERON:0001533 | subclavian artery |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|-----------------------------------|
| UBERON:0001552 | arcuate artery |
| UBERON:0001555 | digestive tract |
| UBERON:0001556 | lower urinary tract |
| UBERON:0001557 | upper respiratory tract |
| UBERON:0001558 | lower respiratory tract |
| UBERON:0001560 | neck of organ |
| UBERON:0001606 | muscle of iris |
| UBERON:0001607 | sphincter pupillae |
| UBERON:0001608 | dilatator pupillae |
| UBERON:0001621 | coronary artery |
| UBERON:0001630 | muscle organ |
| UBERON:0001637 | artery |
| UBERON:0001638 | vein |
| UBERON:0001678 | temporal bone |
| UBERON:0001690 | ear |
| UBERON:0001691 | external ear |
| UBERON:0001694 | petrous part of temporal bone |
| UBERON:0001703 | neurocranium |
| UBERON:0001708 | jaw skeleton |
| UBERON:0001711 | eyelid |
| UBERON:0001735 | tonsillar ring |
| UBERON:0001744 | lymphoid tissue |
| UBERON:0001745 | secondary nodular lymphoid tissue |
| UBERON:0001747 | parenchyma of thyroid gland |
| UBERON:0001750 | lacrimal apparatus |
| UBERON:0001751 | dentine |
| UBERON:0001752 | enamel |
| UBERON:0001753 | cementum |
| UBERON:0001754 | dental pulp |
| UBERON:0001756 | middle ear |
| UBERON:0001758 | periodontium |
| UBERON:0001763 | odontogenic papilla |
| UBERON:0001765 | mammary duct |
| UBERON:0001766 | anterior chamber of eyeball |
| UBERON:0001768 | uvea |
| UBERON:0001769 | iris |
| UBERON:0001770 | lacrimal canaliculus |
| UBERON:0001773 | sclera |
| UBERON:0001775 | ciliary body |
| UBERON:0001776 | optic choroid |
| UBERON:0001777 | substantia propria of cornea |
| UBERON:0001778 | ciliary epithelium |
| UBERON:0001780 | spinal nerve |
| UBERON:0001781 | layer of retina |
| UBERON:0001782 | pigmented layer of retina |
| UBERON:0001800 | sensory ganglion |
| UBERON:0001801 | anterior segment of eyeball |
| UBERON:0001802 | posterior segment of eyeball |
| UBERON:0001803 | epithelium of lens |
| UBERON:0001811 | conjunctiva |
| UBERON:0001820 | sweat gland |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---|
| UBERON:0001821 | sebaceous gland |
| UBERON:0001826 | nasal cavity mucosa |
| UBERON:0001828 | gingiva |
| UBERON:0001839 | bony labyrinth |
| UBERON:0001840 | semicircular canal |
| UBERON:0001844 | cochlea |
| UBERON:0001846 | internal ear |
| UBERON:0001849 | membranous labyrinth |
| UBERON:0001850 | lacrimal duct |
| UBERON:0001851 | cortex |
| UBERON:0001853 | utricle of membranous labyrinth |
| UBERON:0001854 | saccule of membranous labyrinth |
| UBERON:0001855 | cochlear duct of membranous labyrinth |
| UBERON:0001856 | semicircular duct |
| UBERON:0001862 | vestibular labyrinth |
| UBERON:0001869 | cerebral hemisphere |
| UBERON:0001886 | choroid plexus |
| UBERON:0001890 | forebrain |
| UBERON:0001891 | midbrain |
| UBERON:0001893 | telencephalon |
| UBERON:0001894 | diencephalon |
| UBERON:0001895 | metencephalon |
| UBERON:0001898 | hypothalamus |
| UBERON:0001901 | epithelium of trachea |
| UBERON:0001902 | epithelium of small intestine |
| UBERON:0001911 | mammary gland |
| UBERON:0001912 | lobule of lactiferous gland |
| UBERON:0001915 | endothelium of capillary |
| UBERON:0001917 | endothelium of artery |
| UBERON:0001930 | paraventricular nucleus of hypothalamus |
| UBERON:0001948 | regional part of spinal cord |
| UBERON:0001949 | gingival epithelium |
| UBERON:0001954 | Ammon's horn |
| UBERON:0001955 | epithelium of respiratory bronchiole |
| UBERON:0001958 | epithelium of terminal bronchiole |
| UBERON:0001959 | white pulp of spleen |
| UBERON:0001961 | mucosa-associated lymphoid tissue |
| UBERON:0001962 | gut-associated lymphoid tissue |
| UBERON:0001963 | bronchial-associated lymphoid tissue |
| UBERON:0001973 | substance of tooth |
| UBERON:0001976 | epithelium of esophagus |
| UBERON:0001979 | venule |
| UBERON:0001980 | arteriole |
| UBERON:0001981 | blood vessel |
| UBERON:0001982 | capillary |
| UBERON:0001983 | crypt of Lieberkuhn |
| UBERON:0001986 | endothelium |
| UBERON:0001987 | placenta |
| UBERON:0001992 | papillary layer of dermis |
| UBERON:0001994 | hyaline cartilage |
| UBERON:0001995 | fibrocartilage |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|-------------------------------------|
| UBERON:0001997 | olfactory epithelium |
| UBERON:0002005 | enteric nervous system |
| UBERON:0002006 | cortex of lymph node |
| UBERON:0002012 | pulmonary artery |
| UBERON:0002018 | synovial membrane of synovial joint |
| UBERON:0002020 | gray matter of neuraxis |
| UBERON:0002027 | stratum corneum of epidermis |
| UBERON:0002028 | hindbrain |
| UBERON:0002031 | epithelium of bronchus |
| UBERON:0002036 | striated muscle tissue |
| UBERON:0002037 | cerebellum |
| UBERON:0002038 | substantia nigra |
| UBERON:0002046 | thyroid gland |
| UBERON:0002048 | lung |
| UBERON:0002049 | vasculature |
| UBERON:0002050 | embryonic structure |
| UBERON:0002051 | epithelium of bronchiole |
| UBERON:0002053 | zona glomerulosa of adrenal gland |
| UBERON:0002061 | truncus arteriosus |
| UBERON:0002066 | umbilical vein |
| UBERON:0002067 | dermis |
| UBERON:0002072 | hypodermis |
| UBERON:0002073 | hair follicle |
| UBERON:0002075 | viscus |
| UBERON:0002080 | heart right ventricle |
| UBERON:0002081 | cardiac atrium |
| UBERON:0002082 | cardiac ventricle |
| UBERON:0002084 | heart left ventricle |
| UBERON:0002085 | interatrial septum |
| UBERON:0002091 | entire appendicular skeleton |
| UBERON:0002094 | interventricular septum |
| UBERON:0002095 | mesentery |
| UBERON:0002097 | skin of body |
| UBERON:0002099 | cardiac septum |
| UBERON:0002100 | trunk |
| UBERON:0002104 | visual system |
| UBERON:0002105 | vestibulo-auditory system |
| UBERON:0002106 | spleen |
| UBERON:0002107 | liver |
| UBERON:0002108 | small intestine |
| UBERON:0002110 | gallbladder |
| UBERON:0002111 | artery smooth muscle tissue |
| UBERON:0002113 | kidney |
| UBERON:0002114 | duodenum |
| UBERON:0002115 | jejunum |
| UBERON:0002116 | ileum |
| UBERON:0002118 | right ovary |
| UBERON:0002119 | left ovary |
| UBERON:0002120 | pronephros |
| UBERON:0002123 | cortex of thymus |
| UBERON:0002124 | medulla of thymus |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---|
| UBERON:0002165 | endocardium |
| UBERON:0002169 | alveolar sac |
| UBERON:0002185 | bronchus |
| UBERON:0002186 | bronchiole |
| UBERON:0002187 | terminal bronchiole |
| UBERON:0002188 | respiratory bronchiole |
| UBERON:0002190 | subcutaneous adipose tissue |
| UBERON:0002193 | hemolymphoid system |
| UBERON:0002194 | capsule of lymph node |
| UBERON:0002196 | adenohypophysis |
| UBERON:0002199 | integument |
| UBERON:0002200 | vasculature of head |
| UBERON:0002201 | vasculature of trunk |
| UBERON:0002203 | vasculature of eye |
| UBERON:0002204 | musculoskeletal system |
| UBERON:0002209 | fibrous joint |
| UBERON:0002211 | nerve root |
| UBERON:0002213 | cartilaginous joint |
| UBERON:0002214 | macula of utricle of membranous labyrinth |
| UBERON:0002216 | symphysis |
| UBERON:0002217 | synovial joint |
| UBERON:0002227 | spiral organ of cochlea |
| UBERON:0002240 | spinal cord |
| UBERON:0002241 | chondrocranium |
| UBERON:0002242 | nucleus pulposus |
| UBERON:0002255 | vomeronasal organ |
| UBERON:0002256 | dorsal horn of spinal cord |
| UBERON:0002257 | ventral horn of spinal cord |
| UBERON:0002261 | dorsal root of spinal cord |
| UBERON:0002264 | olfactory bulb |
| UBERON:0002268 | olfactory organ |
| UBERON:0002271 | periventricular zone of hypothalamus |
| UBERON:0002275 | reticular formation |
| UBERON:0002276 | lamina of spiral limbus |
| UBERON:0002282 | stria vascularis of cochlear duct |
| UBERON:0002294 | biliary system |
| UBERON:0002296 | dorsal mesentery |
| UBERON:0002299 | alveolus of lung |
| UBERON:0002303 | juxtaglomerular apparatus |
| UBERON:0002305 | layer of hippocampus |
| UBERON:0002308 | nucleus of brain |
| UBERON:0002313 | hippocampus pyramidal layer |
| UBERON:0002315 | gray matter of spinal cord |
| UBERON:0002319 | mesangium |
| UBERON:0002320 | glomerular mesangium |
| UBERON:0002321 | extraglomerular mesangium |
| UBERON:0002323 | coelomic cavity lumen |
| UBERON:0002325 | epithelium of urethra |
| UBERON:0002328 | notochord |
| UBERON:0002329 | somite |
| UBERON:0002330 | exocrine system |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|-----------------------------|
| UBERON:0002331 | umbilical cord |
| UBERON:0002335 | macula densa |
| UBERON:0002342 | neural crest |
| UBERON:0002346 | neurectoderm |
| UBERON:0002348 | epicardium |
| UBERON:0002349 | myocardium |
| UBERON:0002350 | conducting system of heart |
| UBERON:0002351 | sinoatrial node |
| UBERON:0002352 | atrioventricular node |
| UBERON:0002353 | atrioventricular bundle |
| UBERON:0002355 | pelvis |
| UBERON:0002357 | serous pericardium |
| UBERON:0002358 | peritoneum |
| UBERON:0002360 | meninx |
| UBERON:0002363 | dura mater |
| UBERON:0002364 | tympanic membrane |
| UBERON:0002365 | exocrine gland |
| UBERON:0002367 | prostate gland |
| UBERON:0002368 | endocrine gland |
| UBERON:0002369 | adrenal gland |
| UBERON:0002370 | thymus |
| UBERON:0002371 | bone marrow |
| UBERON:0002372 | tonsil |
| UBERON:0002376 | muscle of head |
| UBERON:0002384 | connective tissue |
| UBERON:0002385 | muscle tissue |
| UBERON:0002390 | hematopoietic system |
| UBERON:0002392 | nasolacrimal duct |
| UBERON:0002394 | bile duct |
| UBERON:0002400 | parietal pleura |
| UBERON:0002401 | visceral pleura |
| UBERON:0002405 | immune system |
| UBERON:0002406 | pericardial sac |
| UBERON:0002407 | pericardium |
| UBERON:0002410 | autonomic nervous system |
| UBERON:0002412 | vertebra |
| UBERON:0002416 | integumental system |
| UBERON:0002417 | abdominal segment of trunk |
| UBERON:0002418 | cartilage tissue |
| UBERON:0002419 | skin gland |
| UBERON:0002420 | basal ganglion |
| UBERON:0002421 | hippocampal formation |
| UBERON:0002423 | hepatobiliary system |
| UBERON:0002424 | oral epithelium |
| UBERON:0002425 | visceral serous pericardium |
| UBERON:0002435 | striatum |
| UBERON:0002456 | internal thoracic artery |
| UBERON:0002465 | lymphoid system |
| UBERON:0002469 | esophagus mucosa |
| UBERON:0002481 | bone tissue |
| UBERON:0002485 | prostate duct |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|----------------------------------|
| UBERON:0002495 | long bone |
| UBERON:0002499 | cochlear labyrinth |
| UBERON:0002506 | iris epithelium |
| UBERON:0002512 | corpus luteum |
| UBERON:0002513 | endochondral bone |
| UBERON:0002517 | basicranium |
| UBERON:0002518 | otolith organ |
| UBERON:0002521 | elastic tissue |
| UBERON:0002523 | tunica intima |
| UBERON:0002530 | gland |
| UBERON:0002532 | epiblast (generic) |
| UBERON:0002539 | pharyngeal arch |
| UBERON:0002546 | cranial placode |
| UBERON:0002553 | anatomical cavity |
| UBERON:0002600 | limbic lobe |
| UBERON:0002616 | regional part of brain |
| UBERON:0002619 | regional part of cerebral cortex |
| UBERON:0002680 | regional part of metencephalon |
| UBERON:0002780 | regional part of forebrain |
| UBERON:0002784 | regional part of diencephalon |
| UBERON:0002791 | regional part of telencephalon |
| UBERON:0002950 | regional part of midbrain |
| UBERON:0003022 | lobe parts of cerebral cortex |
| UBERON:0003037 | septum |
| UBERON:0003048 | regional part of hypothalamus |
| UBERON:0003050 | olfactory placode |
| UBERON:0003051 | ear vesicle |
| UBERON:0003055 | periderm |
| UBERON:0003056 | pre-chordal neural plate |
| UBERON:0003057 | chordal neural plate |
| UBERON:0003059 | presomitic mesoderm |
| UBERON:0003060 | pronephric duct |
| UBERON:0003061 | blood island |
| UBERON:0003063 | prechordal plate |
| UBERON:0003064 | intermediate mesoderm |
| UBERON:0003067 | dorsolateral placode |
| UBERON:0003068 | axial mesoderm |
| UBERON:0003069 | otic placode |
| UBERON:0003071 | eye primordium |
| UBERON:0003072 | optic cup |
| UBERON:0003073 | lens placode |
| UBERON:0003074 | mesonephric duct |
| UBERON:0003075 | neural plate |
| UBERON:0003076 | posterior neural tube |
| UBERON:0003077 | paraxial mesoderm |
| UBERON:0003080 | anterior neural tube |
| UBERON:0003081 | lateral plate mesoderm |
| UBERON:0003082 | myotome |
| UBERON:0003083 | trunk neural crest |
| UBERON:0003084 | heart primordium |
| UBERON:0003089 | sclerotome |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---------------------------------------|
| UBERON:0003091 | thyroid primordium |
| UBERON:0003099 | cranial neural crest |
| UBERON:0003100 | female organism |
| UBERON:0003101 | male organism |
| UBERON:0003102 | surface structure |
| UBERON:0003103 | compound organ |
| UBERON:0003104 | mesenchyme |
| UBERON:0003124 | chorion |
| UBERON:0003126 | trachea |
| UBERON:0003128 | cranium |
| UBERON:0003129 | skull |
| UBERON:0003133 | reproductive organ |
| UBERON:0003134 | female reproductive organ |
| UBERON:0003135 | male reproductive organ |
| UBERON:0003210 | blood-cerebrospinal fluid barrier |
| UBERON:0003214 | mammary gland alveolus |
| UBERON:0003215 | alveolus |
| UBERON:0003220 | metanephric mesenchyme |
| UBERON:0003241 | epithelium of utricle |
| UBERON:0003242 | epithelium of saccule |
| UBERON:0003244 | epithelium of mammary gland |
| UBERON:0003258 | endoderm of foregut |
| UBERON:0003281 | mesentery of stomach |
| UBERON:0003294 | gland of foregut |
| UBERON:0003295 | pharyngeal gland |
| UBERON:0003296 | gland of diencephalon |
| UBERON:0003297 | gland of integumental system |
| UBERON:0003332 | submucosa of duodenum |
| UBERON:0003338 | ganglion of peripheral nervous system |
| UBERON:0003350 | epithelium of mucosa |
| UBERON:0003351 | pharyngeal epithelium |
| UBERON:0003353 | epithelium of hindgut |
| UBERON:0003386 | smooth muscle of eye |
| UBERON:0003408 | gland of gut |
| UBERON:0003422 | mesenchyme of umbilical cord |
| UBERON:0003454 | small intestine Peyer's patch |
| UBERON:0003455 | inner renal medulla loop of henle |
| UBERON:0003457 | head bone |
| UBERON:0003462 | facial bone |
| UBERON:0003469 | respiratory system artery |
| UBERON:0003487 | skin sebaceous gland |
| UBERON:0003496 | head blood vessel |
| UBERON:0003497 | abdomen blood vessel |
| UBERON:0003498 | heart blood vessel |
| UBERON:0003504 | respiratory system blood vessel |
| UBERON:0003509 | arterial blood vessel |
| UBERON:0003513 | trunk blood vessel |
| UBERON:0003517 | kidney blood vessel |
| UBERON:0003527 | kidney capillary |
| UBERON:0003528 | brain grey matter |
| UBERON:0003566 | head connective tissue |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|--|
| UBERON:0003567 | abdomen connective tissue |
| UBERON:0003586 | trunk connective tissue |
| UBERON:0003643 | respiratory system arterial blood vessel |
| UBERON:0003644 | kidney arterial blood vessel |
| UBERON:0003672 | dentition |
| UBERON:0003688 | omentum |
| UBERON:0003697 | abdominal wall |
| UBERON:0003704 | intrahepatic bile duct |
| UBERON:0003714 | neural tissue |
| UBERON:0003729 | mouth mucosa |
| UBERON:0003820 | prostate bud |
| UBERON:0003835 | abdominal segment blood vessel |
| UBERON:0003838 | abdominal segment connective tissue |
| UBERON:0003856 | odontogenic mesenchyme |
| UBERON:0003869 | presumptive ganglion |
| UBERON:0003886 | body cavity precursor |
| UBERON:0003887 | intraembryonic coelom |
| UBERON:0003891 | stroma |
| UBERON:0003893 | capsule |
| UBERON:0003894 | liver primordium |
| UBERON:0003909 | sinusoid |
| UBERON:0003913 | tooth-like structure |
| UBERON:0003914 | epithelial tube |
| UBERON:0003915 | endothelial tube |
| UBERON:0003918 | kidney mesenchyme |
| UBERON:0003920 | venous blood vessel |
| UBERON:0003921 | pancreas primordium |
| UBERON:0003922 | pancreatic bud |
| UBERON:0003923 | dorsal pancreatic bud |
| UBERON:0003924 | ventral pancreatic bud |
| UBERON:0003928 | digestive system duct |
| UBERON:0003929 | gut epithelium |
| UBERON:0003937 | sex gland |
| UBERON:0003947 | brain ventricle/choroid plexus |
| UBERON:0003956 | aqueous drainage system |
| UBERON:0003975 | internal female genitalia |
| UBERON:0004001 | olfactory bulb layer |
| UBERON:0004043 | semicircular canal ampulla |
| UBERON:0004086 | brain ventricle |
| UBERON:0004088 | ocular region |
| UBERON:0004089 | midface |
| UBERON:0004111 | anatomical conduit |
| UBERON:0004117 | pharyngeal pouch |
| UBERON:0004119 | endoderm-derived structure |
| UBERON:0004120 | mesoderm-derived structure |
| UBERON:0004121 | ectoderm-derived structure |
| UBERON:0004122 | genitourinary system |
| UBERON:0004128 | optic vesicle |
| UBERON:0004134 | proximal tubule |
| UBERON:0004135 | distal tubule |
| UBERON:0004136 | intermediate tubule |

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Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---|
| UBERON:0004139 | cardiogenic plate |
| UBERON:0004140 | heart field |
| UBERON:0004141 | heart tube |
| UBERON:0004145 | outflow tract |
| UBERON:0004146 | His-Purkinje system |
| UBERON:0004151 | cardiac chamber |
| UBERON:0004160 | proepicardium |
| UBERON:0004161 | septum transversum |
| UBERON:0004175 | internal reproductive organ |
| UBERON:0004176 | external reproductive organ |
| UBERON:0004177 | hemopoietic organ |
| UBERON:0004178 | aorta smooth muscle tissue |
| UBERON:0004179 | prostate glandular acinus |
| UBERON:0004185 | endodermal gut |
| UBERON:0004186 | olfactory bulb mitral cell layer |
| UBERON:0004188 | glomerular epithelium |
| UBERON:0004189 | glomerular endothelium |
| UBERON:0004190 | glomerulus vasculature |
| UBERON:0004193 | loop of Henle ascending limb thin segment |
| UBERON:0004198 | comma-shaped body |
| UBERON:0004199 | S-shaped body |
| UBERON:0004201 | kidney outer medulla inner stripe |
| UBERON:0004202 | kidney outer medulla outer stripe |
| UBERON:0004208 | nephrogenic mesenchyme |
| UBERON:0004209 | renal vesicle |
| UBERON:0004211 | nephron epithelium |
| UBERON:0004212 | glomerular capillary |
| UBERON:0004227 | kidney pelvis smooth muscle |
| UBERON:0004234 | iris smooth muscle |
| UBERON:0004237 | blood vessel smooth muscle |
| UBERON:0004277 | eye muscle |
| UBERON:0004288 | skeleton |
| UBERON:0004290 | dermomyotome |
| UBERON:0004291 | heart rudiment |
| UBERON:0004294 | glomerular capillary endothelium |
| UBERON:0004340 | allantois |
| UBERON:0004348 | optic eminence |
| UBERON:0004362 | pharyngeal arch 1 |
| UBERON:0004363 | aortic arch |
| UBERON:0004456 | entire sense organ system |
| UBERON:0004457 | cavity lining |
| UBERON:0004458 | body cavity or lining |
| UBERON:0004461 | musculature of head |
| UBERON:0004490 | cardiac muscle tissue of atrium |
| UBERON:0004493 | cardiac muscle tissue of myocardium |
| UBERON:0004535 | cardiovascular system |
| UBERON:0004536 | lymph vasculature |
| UBERON:0004537 | blood vasculature |
| UBERON:0004571 | systemic arterial system |
| UBERON:0004572 | arterial system |
| UBERON:0004573 | systemic artery |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|--|
| UBERON:0004582 | venous system |
| UBERON:0004590 | sphincter muscle |
| UBERON:0004638 | blood vessel endothelium |
| UBERON:0004639 | afferent arteriole |
| UBERON:0004640 | efferent arteriole |
| UBERON:0004645 | urinary bladder urothelium |
| UBERON:0004647 | liver lobule |
| UBERON:0004663 | aorta wall |
| UBERON:0004664 | aorta tunica adventitia |
| UBERON:0004681 | vestibular system |
| UBERON:0004684 | raphe nuclei |
| UBERON:0004695 | arterial system smooth muscle |
| UBERON:0004700 | arterial system endothelium |
| UBERON:0004715 | annulus fibrosus disci intervertebralis |
| UBERON:0004716 | conceptus |
| UBERON:0004719 | arcuate vein |
| UBERON:0004721 | crista ampullaris |
| UBERON:0004723 | interlobular artery |
| UBERON:0004726 | vasa recta |
| UBERON:0004732 | segmental subdivision of nervous system |
| UBERON:0004733 | segmental subdivision of hindbrain |
| UBERON:0004734 | gastrula |
| UBERON:0004755 | skeletal tissue |
| UBERON:0004761 | cartilaginous neurocranium |
| UBERON:0004765 | skeletal element |
| UBERON:0004770 | articular system |
| UBERON:0004775 | outer renal medulla vasa recta |
| UBERON:0004776 | inner renal medulla vasa recta |
| UBERON:0004780 | gastrointestinal system lamina propria |
| UBERON:0004782 | gastrointestinal system serosa |
| UBERON:0004785 | respiratory system mucosa |
| UBERON:0004786 | gastrointestinal system mucosa |
| UBERON:0004787 | urethra urothelium |
| UBERON:0004788 | kidney pelvis urothelium |
| UBERON:0004797 | blood vessel layer |
| UBERON:0004801 | cervix epithelium |
| UBERON:0004802 | respiratory tract epithelium |
| UBERON:0004807 | respiratory system epithelium |
| UBERON:0004808 | gastrointestinal system epithelium |
| UBERON:0004810 | nephron tubule epithelium |
| UBERON:0004813 | seminiferous tubule epithelium |
| UBERON:0004815 | lower respiratory tract epithelium |
| UBERON:0004819 | kidney epithelium |
| UBERON:0004820 | bile duct epithelium |
| UBERON:0004821 | pulmonary alveolus epithelium |
| UBERON:0004823 | intrahepatic bile duct epithelium |
| UBERON:0004852 | cardiovascular system endothelium |
| UBERON:0004854 | gastrointestinal system mesentery |
| UBERON:0004872 | splanchnic layer of lateral plate mesoderm |
| UBERON:0004874 | somatopleure |
| UBERON:0004875 | nephrogenic cord |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|-------------------------------------|
| UBERON:0004876 | urogenital ridge |
| UBERON:0004880 | chordamesoderm |
| UBERON:0004894 | alveolar wall |
| UBERON:0004902 | urogenital sinus epithelium |
| UBERON:0004905 | articulation |
| UBERON:0004906 | ectodermal gut |
| UBERON:0004907 | lower digestive tract |
| UBERON:0004909 | epithelium of gonad |
| UBERON:0004910 | epithelium of male gonad |
| UBERON:0004911 | epithelium of female gonad |
| UBERON:0004912 | biliary bud |
| UBERON:0004921 | subdivision of digestive tract |
| UBERON:0004923 | organ component layer |
| UBERON:0004996 | mucosa of cardia of stomach |
| UBERON:0004998 | mucosa of pylorus |
| UBERON:0005039 | mucosa of bronchiole |
| UBERON:0005057 | immune organ |
| UBERON:0005058 | hemolymphoid system gland |
| UBERON:0005062 | neural fold |
| UBERON:0005068 | neural rod |
| UBERON:0005081 | ureter ureteric bud |
| UBERON:0005085 | ectodermal placode |
| UBERON:0005086 | hair follicle placode |
| UBERON:0005087 | tooth placode |
| UBERON:0005088 | sebaceous gland placode |
| UBERON:0005089 | sweat gland placode |
| UBERON:0005090 | muscle structure |
| UBERON:0005095 | kidney rudiment |
| UBERON:0005096 | descending thin limb |
| UBERON:0005097 | renal connecting tubule |
| UBERON:0005103 | mesonephric epithelium |
| UBERON:0005153 | epithelial bud |
| UBERON:0005154 | epithelial cord |
| UBERON:0005156 | reproductive structure |
| UBERON:0005157 | epithelial fold |
| UBERON:0005162 | multi cell component structure |
| UBERON:0005164 | ascending limb of loop of Henle |
| UBERON:0005167 | papillary duct |
| UBERON:0005168 | interlobular vein |
| UBERON:0005169 | interstitial tissue |
| UBERON:0005171 | hepatic duct |
| UBERON:0005172 | abdomen organ |
| UBERON:0005173 | abdominal segment organ |
| UBERON:0005174 | back organ |
| UBERON:0005176 | tooth enamel organ |
| UBERON:0005177 | trunk organ |
| UBERON:0005178 | thoracic cavity organ |
| UBERON:0005179 | pelvis organ |
| UBERON:0005185 | renal medulla collecting duct |
| UBERON:0005186 | outer renal medulla collecting duct |
| UBERON:0005187 | inner renal medulla collecting duct |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|--|
| UBERON:0005211 | renal medulla interstitium |
| UBERON:0005212 | testis interstitial tissue |
| UBERON:0005213 | outer renal medulla interstitium |
| UBERON:0005214 | inner renal medulla interstitium |
| UBERON:0005215 | kidney interstitium |
| UBERON:0005253 | head mesenchyme |
| UBERON:0005256 | trunk mesenchyme |
| UBERON:0005267 | renal cortex collecting duct |
| UBERON:0005268 | renal cortex artery |
| UBERON:0005269 | renal cortex vein |
| UBERON:0005270 | renal cortex interstitium |
| UBERON:0005271 | juxtamedullary cortex |
| UBERON:0005272 | peritubular capillary |
| UBERON:0005281 | ventricular system of central nervous system |
| UBERON:0005282 | ventricular system of brain |
| UBERON:0005283 | tela choroidea |
| UBERON:0005284 | brain vasculature |
| UBERON:0005291 | embryonic tissue |
| UBERON:0005292 | extraembryonic tissue |
| UBERON:0005294 | genital ridge |
| UBERON:0005295 | sex cord |
| UBERON:0005296 | ovary sex cord |
| UBERON:0005297 | testis sex cord |
| UBERON:0005311 | mammary placode |
| UBERON:0005317 | pulmonary artery endothelium |
| UBERON:0005321 | mesonephric smooth muscle tissue |
| UBERON:0005333 | mammary bud |
| UBERON:0005358 | ventricle of nervous system |
| UBERON:0005366 | olfactory lobe |
| UBERON:0005376 | olfactory bulb external plexiform layer |
| UBERON:0005377 | olfactory bulb glomerular layer |
| UBERON:0005384 | nasal cavity epithelium |
| UBERON:0005388 | photoreceptor array |
| UBERON:0005389 | transparent eye structure |
| UBERON:0005396 | carotid artery segment |
| UBERON:0005398 | female reproductive gland |
| UBERON:0005399 | male reproductive gland |
| UBERON:0005406 | perirenal fat |
| UBERON:0005409 | gastrointestinal system |
| UBERON:0005423 | developing anatomical structure |
| UBERON:0005424 | presumptive retinal pigmented epithelium |
| UBERON:0005426 | lens vesicle |
| UBERON:0005427 | corneal primordium |
| UBERON:0005428 | vagal neural crest |
| UBERON:0005432 | aortic sac |
| UBERON:0005497 | non-neural ectoderm |
| UBERON:0005498 | primitive heart tube |
| UBERON:0005562 | thymus primordium |
| UBERON:0005564 | gonad primordium |
| UBERON:0005597 | lung primordium |
| UBERON:0005602 | dorsal mesogastrium |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---|
| UBERON:0005629 | vascular plexus |
| UBERON:0005631 | extraembryonic membrane |
| UBERON:0005721 | pronephric mesoderm |
| UBERON:0005725 | olfactory system |
| UBERON:0005728 | extraembryonic mesoderm |
| UBERON:0005734 | tunica adventitia of blood vessel |
| UBERON:0005742 | adventitia |
| UBERON:0005744 | cranial conduit |
| UBERON:0005749 | glomerular tuft |
| UBERON:0005750 | glomerular parietal epithelium |
| UBERON:0005751 | visceral layer of glomerular capsule |
| UBERON:0005754 | rostral part of nephrogenic cord |
| UBERON:0005760 | urorectal septum |
| UBERON:0005795 | embryonic uterus |
| UBERON:0005800 | segment of aorta |
| UBERON:0005856 | developing mesenchymal condensation |
| UBERON:0005863 | cartilaginous condensation |
| UBERON:0005866 | pre-cartilage condensation |
| UBERON:0005872 | 1st arch pharyngeal cleft |
| UBERON:0005879 | pharyngeal cleft |
| UBERON:0005891 | coelomic epithelium |
| UBERON:0005904 | duct of male reproductive system |
| UBERON:0005906 | serous sac |
| UBERON:0005908 | conjunctival sac |
| UBERON:0005910 | transitional epithelium |
| UBERON:0005911 | endo-epithelium |
| UBERON:0005913 | zone of bone organ |
| UBERON:0005932 | bulb of hair follicle |
| UBERON:0005933 | hair root sheath |
| UBERON:0005941 | hair inner root sheath |
| UBERON:0005942 | hair outer root sheath |
| UBERON:0005969 | reticulum trabeculare |
| UBERON:0005971 | amniotic fold |
| UBERON:0005983 | heart layer |
| UBERON:0005985 | coronary vessel |
| UBERON:0005986 | left branch of atrioventricular bundle |
| UBERON:0005987 | right branch of atrioventricular bundle |
| UBERON:0006003 | skin adnexa |
| UBERON:0006004 | hair follicle matrix region |
| UBERON:0006082 | fundus of urinary bladder |
| UBERON:0006215 | rhombic lip |
| UBERON:0006235 | foregut-midgut junction |
| UBERON:0006238 | future brain |
| UBERON:0006242 | gall bladder primordium |
| UBERON:0006266 | nasolacrimal groove |
| UBERON:0006267 | notochordal plate |
| UBERON:0006268 | notochordal process |
| UBERON:0006293 | spleen primordium |
| UBERON:0006311 | chamber of eyeball |
| UBERON:0006341 | outer renal medulla peritubular capillary |
| UBERON:0006376 | premacula segment of distal straight tubule |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---|
| UBERON:0006444 | annulus fibrosus |
| UBERON:0006524 | alveolar system |
| UBERON:0006534 | renal convoluted tubule |
| UBERON:0006541 | outer medulla inner stripe loop of henle |
| UBERON:0006542 | outer medulla outer stripe loop of henle |
| UBERON:0006544 | kidney vasculature |
| UBERON:0006553 | renal duct |
| UBERON:0006554 | urinary system structure |
| UBERON:0006555 | excretory tube |
| UBERON:0006558 | lymphatic part of lymphoid system |
| UBERON:0006561 | non-lymphatic part of lymphoid system |
| UBERON:0006562 | pharynx |
| UBERON:0006568 | hypothalamic nucleus |
| UBERON:0006569 | diencephalic nucleus |
| UBERON:0006595 | presumptive endoderm |
| UBERON:0006598 | presumptive structure |
| UBERON:0006601 | presumptive ectoderm |
| UBERON:0006603 | presumptive mesoderm |
| UBERON:0006660 | muscle layer |
| UBERON:0006725 | spiral ligament |
| UBERON:0006799 | glandular epithelium |
| UBERON:0006800 | anatomical line |
| UBERON:0006815 | areolar connective tissue |
| UBERON:0006846 | groove |
| UBERON:0006851 | renal cortex peritubular capillary |
| UBERON:0006853 | renal cortex tubule |
| UBERON:0006854 | distal straight tubule postmacula segment |
| UBERON:0006855 | ureter muscle layer |
| UBERON:0006858 | adrenal/interrenal gland |
| UBERON:0006866 | terminal part of digestive tract |
| UBERON:0006876 | vasculature of organ |
| UBERON:0006877 | vasculature of liver |
| UBERON:0006904 | head mesenchyme from mesoderm |
| UBERON:0006914 | squamous epithelium |
| UBERON:0006915 | stratified squamous epithelium |
| UBERON:0006924 | stomach glandular epithelium |
| UBERON:0006925 | digestive gland |
| UBERON:0006929 | glandular columnar epithelium |
| UBERON:0006931 | stomach glandular region mucosa |
| UBERON:0006932 | vestibular epithelium |
| UBERON:0006934 | sensory epithelium |
| UBERON:0006935 | crista ampullaris neuroepithelium |
| UBERON:0006937 | inner ear epithelium |
| UBERON:0006955 | uterine epithelium |
| UBERON:0006965 | vascular cord |
| UBERON:0007005 | cardiac mesoderm |
| UBERON:0007010 | cleaving embryo |
| UBERON:0007026 | primitive gut |
| UBERON:0007100 | circulatory organ |
| UBERON:0007123 | pharyngeal pouch 2 |
| UBERON:0007135 | neural keel |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---|
| UBERON:0007196 | tracheobronchial tree |
| UBERON:0007204 | brachiocephalic vasculature |
| UBERON:0007213 | mesenchyme derived from head neural crest |
| UBERON:0007238 | 1st arch maxillary component |
| UBERON:0007240 | tunica adventitia of artery |
| UBERON:0007245 | nuclear complex of neuraxis |
| UBERON:0007277 | presumptive hindbrain |
| UBERON:0007280 | presumptive endocardium |
| UBERON:0007282 | presumptive segmental plate |
| UBERON:0007284 | presumptive neural plate |
| UBERON:0007285 | presumptive paraxial mesoderm |
| UBERON:0007297 | presumptive pronephric mesoderm |
| UBERON:0007303 | pharyngeal vasculature |
| UBERON:0007324 | pancreatic lobe |
| UBERON:0007329 | pancreatic duct |
| UBERON:0007376 | outer epithelial layer |
| UBERON:0007383 | enveloping layer of ectoderm |
| UBERON:0007497 | developing epithelial placode |
| UBERON:0007499 | epithelial sac |
| UBERON:0007500 | epithelial tube open at both ends |
| UBERON:0007503 | epithelial vesicle |
| UBERON:0007521 | smooth muscle sphincter |
| UBERON:0007524 | dense mesenchyme tissue |
| UBERON:0007530 | migrating mesenchyme population |
| UBERON:0007592 | ciliated columnar epithelium |
| UBERON:0007601 | ciliated epithelium |
| UBERON:0007616 | layer of synovial tissue |
| UBERON:0007625 | pigment epithelium of eye |
| UBERON:0007645 | future meninx |
| UBERON:0007647 | ectomeninx |
| UBERON:0007684 | uriniferous tubule |
| UBERON:0007685 | region of nephron tubule |
| UBERON:0007687 | kidney field |
| UBERON:0007689 | thyroid diverticulum |
| UBERON:0007690 | early pharyngeal endoderm |
| UBERON:0007771 | epidermis gland |
| UBERON:0007798 | vascular system |
| UBERON:0007806 | connecting stalk |
| UBERON:0007811 | craniocervical region |
| UBERON:0007844 | cartilaginous element |
| UBERON:0007845 | regular connective tissue |
| UBERON:0007846 | dense regular connective tissue |
| UBERON:0007914 | head or neck bone |
| UBERON:0008001 | irregular bone |
| UBERON:0008193 | pneumatized bone |
| UBERON:0008229 | craniocervical region musculature |
| UBERON:0008404 | proximale tubular epithelium |
| UBERON:0008408 | distal tubular epithelium |
| UBERON:0008425 | mammary ridge |
| UBERON:0008780 | inner cell mass derived epiblast |
| UBERON:0008814 | pharyngeal system |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|--|
| UBERON:0008816 | embryonic head |
| UBERON:0008835 | hepatic diverticulum |
| UBERON:0008836 | liver bud |
| UBERON:0008859 | cardiac gastric gland |
| UBERON:0008861 | pyloric gastric gland |
| UBERON:0008874 | pulmonary acinus |
| UBERON:0008883 | osteoid |
| UBERON:0008886 | pulmonary vascular system |
| UBERON:0008947 | respiratory primordium |
| UBERON:0008987 | renal parenchyma |
| UBERON:0009034 | stomach region |
| UBERON:0009089 | inner medulla vasa recta descending limb |
| UBERON:0009090 | outer medulla vasa recta descending limb |
| UBERON:0009091 | vasa recta ascending limb |
| UBERON:0009092 | inner medulla vasa recta ascending limb |
| UBERON:0009093 | outer medulla vasa recta ascending limb |
| UBERON:0009095 | tip of renal papilla |
| UBERON:0009113 | thymic region |
| UBERON:0009117 | indifferent gonad |
| UBERON:0009122 | adenohypophyseal placode |
| UBERON:0009123 | otic cup |
| UBERON:0009142 | entire mesenchyme |
| UBERON:0009143 | developing esophageal region |
| UBERON:0009145 | pharyngeal region |
| UBERON:0009196 | indifferent external genitalia |
| UBERON:0009201 | nephric duct |
| UBERON:0009202 | vasa recta descending limb |
| UBERON:0009210 | pharyngeal membrane |
| UBERON:0009213 | pharyngeal membrane of 1st arch |
| UBERON:0009497 | epithelium of foregut-midgut junction |
| UBERON:0009550 | endoderm of foregut-midgut junction |
| UBERON:0009566 | intestinal submucosa |
| UBERON:0009569 | subdivision of trunk |
| UBERON:0009616 | presumptive midbrain |
| UBERON:0009617 | head paraxial mesoderm |
| UBERON:0009618 | trunk paraxial mesoderm |
| UBERON:0009623 | spinal nerve root |
| UBERON:0009661 | midbrain nucleus |
| UBERON:0009663 | telencephalic nucleus |
| UBERON:0009664 | gut mesentery |
| UBERON:0009722 | entire pharyngeal arch endoderm |
| UBERON:0009753 | adrenal gland cortex zone |
| UBERON:0009773 | renal tubule |
| UBERON:0009778 | pleural sac |
| UBERON:0009842 | acinus |
| UBERON:0009843 | prostate epithelial cord |
| UBERON:0009845 | urogenital sinus mesenchyme |
| UBERON:0009846 | embryonic cloacal epithelium |
| UBERON:0009847 | prostate field |
| UBERON:0009854 | digestive tract diverticulum |
| UBERON:0009856 | sac |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|----------------|---|
| UBERON:0009859 | endosteum |
| UBERON:0009870 | zone of stomach |
| UBERON:0009881 | anterior lateral plate mesoderm |
| UBERON:0009889 | secondary heart field |
| UBERON:0009911 | lobule |
| UBERON:0009916 | wall of ureter |
| UBERON:0009919 | ureter smooth muscle |
| UBERON:0009950 | olfactory bulb plexiform layer |
| UBERON:0009954 | vomeronasal system |
| UBERON:0009955 | neurogenic placode |
| UBERON:0010009 | aggregate regional part of brain |
| UBERON:0010011 | collection of basal ganglia |
| UBERON:0010039 | food storage organ |
| UBERON:0010047 | oral gland |
| UBERON:0010077 | cuboidal epithelium |
| UBERON:0010092 | future metencephalon |
| UBERON:0010131 | conducting tissue of heart |
| UBERON:0010133 | neuroendocrine gland |
| UBERON:0010141 | primitive sex cord of indifferent gonad |
| UBERON:0010147 | male accessory sex gland |
| UBERON:0010188 | protuberance |
| UBERON:0010191 | aortic system |
| UBERON:0010226 | future cardiac ventricle |
| UBERON:0010227 | future cardiac atrium |
| UBERON:0010230 | eyeball of camera-type eye |
| UBERON:0010260 | umbilical blood vessel |
| UBERON:0010286 | midbrain neural tube |
| UBERON:0010302 | amnioserosa |
| UBERON:0010303 | extraembryonic epithelium |
| UBERON:0010312 | immature eye |
| UBERON:0010313 | neural crest-derived structure |
| UBERON:0010314 | structure with developmental contribution from neural crest |
| UBERON:0010316 | germ layer / neural crest |
| UBERON:0010323 | cranial skeletal system |
| UBERON:0010363 | endochondral element |
| UBERON:0010364 | dermal skeleton |
| UBERON:0010365 | odontoid tissue |
| UBERON:0010368 | pulmonary lobule |
| UBERON:0010371 | ecto-epithelium |
| UBERON:0010375 | pancreas dorsal primordium |
| UBERON:0010376 | pancreas ventral primordium |
| UBERON:0010409 | eye surface |
| UBERON:0010422 | primary nodular lymphoid tissue |
| UBERON:0010498 | pseudostratified columnar epithelium |
| UBERON:0010499 | pseudostratified ciliated columnar epithelium |
| UBERON:0010523 | microcirculatory vessel |
| UBERON:0010532 | primitive nephron |
| UBERON:0010743 | meningeal cluster |
| UBERON:0010912 | subdivision of skeleton |
| UBERON:0010913 | vertebral element |

Continued on next page

Table A.3.1 – continued from previous page

| Key | Description |
|---------------------|--|
| UBERON:0010959 | craniocervical muscle |
| UBERON:0010996 | articular cartilage of joint |
| UBERON:0011094 | vertebra cartilaginous condensation |
| UBERON:0011095 | vertebra pre-cartilage condensation |
| UBERON:0011134 | nonsynovial joint |
| UBERON:0011135 | intervertebral cartilage |
| UBERON:0011137 | axial skeletal system |
| UBERON:0011138 | post-cranial axial skeletal system |
| UBERON:0011143 | upper urinary tract |
| UBERON:0011148 | submucosal gland |
| UBERON:0011156 | facial skeleton |
| UBERON:0011158 | primary subdivision of skull |
| UBERON:0011159 | primary subdivision of cranial skeletal system |
| UBERON:0011216 | organ system subdivision |
| UBERON:0011222 | intra-ocular muscle |
| UBERON:0011249 | appendicular skeletal system |
| UBERON:0011272 | embryonic skin basal layer |
| UBERON:0011300 | gray matter of telencephalon |
| UBERON:0011362 | cranial blood vasculature |
| UBERON:0011585 | cell condensation |
| UBERON:0011587 | pre-dentine |
| UBERON:0011588 | pre-enamel |
| UBERON:0011595 | jaw region |
| UBERON:0011676 | axial subdivision of organism |
| UBERON:0011814 | non-neurogenic ectodermal placode |
| UBERON:0011817 | follicle placode |
| UBERON:0011821 | irregular connective tissue |
| UBERON:0011823 | dense connective tissue |
| UBERON:0011825 | loose connective tissue |
| UBERON:0011892 | anterior uvea |
| UBERON:0011932 | pilosebaceous unit |
| UBERON:0011953 | stomach glandular region |
| UBERON:0011997 | coelom |
| UBERON:0012069 | epithelium-associated lymphoid tissue |
| UBERON:0012274 | columnar epithelium |
| UBERON:0012275 | meso-epithelium |
| UBERON:0012292 | embryonic cloacal fold |
| UBERON:0012313 | 1st arch maxillary ectoderm |
| UBERON:0012344 | holocrine gland |
| UBERON:0012361 | internal anal region |
| UBERON:0012429 | hemopoietic tissue |
| UBERON:0012430 | tunica fibrosa of eyeball |
| UBERON:0012469 | external anal region |
| UBERON:0012481 | cloacal epithelium |
| UBERON:0013126 | vein of abdomen |
| UBERON:1000023 | spleen pulp |
| UBERON:1000024 | parenchyma of spleen |
| UBERON:2005260 | fenestrated capillary |
| snap:MaterialEntity | material_entity |
| snap:Object | object |

(See it at <http://cellontology.org/>)

A.4 BRENDA Tissue Ontology

This controlled vocabulary has 5530 terms

A structured controlled vocabulary for the source of an enzyme. It comprises terms for tissues, cell lines, cell types and cell cultures from uni- and multicellular organisms.

Table A.4.1: BRENDA Tissue Ontology

| Key | Description |
|-------------|--|
| BTO:0000000 | tissues, cell types and enzyme sources |
| BTO:0000001 | culture condition:-induced cell |
| BTO:0000002 | culture condition:1,4-dichlorobenzene-grown cell |
| BTO:0000003 | intestinal cell line |
| BTO:0000004 | culture condition:2,5-dihydroxybenzoate-grown cell |
| BTO:0000005 | culture condition:2-aminobenzenesulfonate-grown cell |
| BTO:0000006 | osteoblastoma cell |
| BTO:0000007 | HEK-293 cell |
| BTO:0000008 | culture condition:3-chlorobenzoate-grown cell |
| BTO:0000009 | culture condition:3-hydroxybenzoate-grown cell |
| BTO:0000010 | culture condition:3-methylcrotonoyl-CoA-grown cell |
| BTO:0000011 | 3T3-L1 cell |
| BTO:0000012 | culture condition:4-(methoxymethyl)phenol-grown cell |
| BTO:0000013 | culture condition:4-chlorophenol-grown cell |
| BTO:0000014 | culture condition:4-hydroxybenzoate-grown cell |
| BTO:0000015 | culture condition:4-methylmuconolactone-grown cell |
| BTO:0000016 | A-172 cell |
| BTO:0000017 | A-431 cell |
| BTO:0000018 | A-549 cell |
| BTO:0000019 | A7r5 cell |
| BTO:0000020 | abdomen |
| BTO:0000021 | head muscle |
| BTO:0000022 | abdominal ganglion |
| BTO:0000023 | pectoral muscle |
| BTO:0000024 | abomasum |
| BTO:0000025 | amniotic cavity |
| BTO:0000026 | culture condition:galactose-grown cell |
| BTO:0000027 | achene |
| BTO:0000028 | pancreatic acinar cell |
| BTO:0000029 | adductor longus |
| BTO:0000030 | adductor |
| BTO:0000031 | fruit peduncle |
| BTO:0000032 | colonic adenocarcinoma cell |
| BTO:0000033 | SW-403 cell |
| BTO:0000034 | apical meristem |
| BTO:0000035 | colorectal adenocarcinoma cell |
| BTO:0000036 | gastric adenocarcinoma cell |
| BTO:0000037 | renal cell carcinoma cell |
| BTO:0000038 | SW-480 cell |
| BTO:0000039 | root cap |
| BTO:0000040 | adenohypophysis |
| BTO:0000041 | medulla oblongata |
| BTO:0000042 | animal |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0000043 | cerebellar cortex |
| BTO:0000044 | tear gland |
| BTO:0000045 | adrenal cortex |
| BTO:0000046 | Y-1 cell |
| BTO:0000047 | adrenal gland |
| BTO:0000048 | zona glomerulosa |
| BTO:0000049 | adrenal medulla |
| BTO:0000050 | zona fasciculata |
| BTO:0000051 | tendon sheath |
| BTO:0000052 | stoma |
| BTO:0000053 | albedo |
| BTO:0000054 | albumen gland |
| BTO:0000055 | pars recta |
| BTO:0000056 | zona reticulata |
| BTO:0000057 | aleurone layer |
| BTO:0000058 | alimentary canal |
| BTO:0000059 | renal epithelium |
| BTO:0000060 | alveolus |
| BTO:0000061 | alveolar sac |
| BTO:0000062 | amastigote |
| BTO:0000063 | culture condition:ammonium malate-grown cell |
| BTO:0000064 | amniocorion |
| BTO:0000065 | amnion |
| BTO:0000066 | amniocyte |
| BTO:0000067 | kidney cell line |
| BTO:0000068 | amniotic fluid |
| BTO:0000069 | WISH cell |
| BTO:0000070 | fungal cell line |
| BTO:0000071 | amoebocyte |
| BTO:0000072 | carpel |
| BTO:0000073 | culture condition:aniline-grown cell |
| BTO:0000074 | antenna |
| BTO:0000075 | antennal gland |
| BTO:0000076 | anterior midgut |
| BTO:0000077 | posterior midgut |
| BTO:0000078 | microglia |
| BTO:0000079 | anther |
| BTO:0000080 | male reproductive gland |
| BTO:0000081 | reproductive system |
| BTO:0000082 | male reproductive system |
| BTO:0000083 | female reproductive system |
| BTO:0000084 | vermiform appendix |
| BTO:0000085 | appressorium |
| BTO:0000086 | culture condition:arabinose-grown cell |
| BTO:0000087 | arterial smooth muscle |
| BTO:0000088 | cardiovascular system |
| BTO:0000089 | blood |
| BTO:0000090 | ascidian |
| BTO:0000091 | ascites |
| BTO:0000092 | trypanosomoid form |
| BTO:0000093 | MCF-7 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0000094 | ascites tumor cell |
| BTO:0000095 | F-9 cell |
| BTO:0000096 | urinary bladder cell line |
| BTO:0000097 | ascospore |
| BTO:0000098 | astroblast |
| BTO:0000099 | astrocyte |
| BTO:0000100 | astrocytoma cell |
| BTO:0000101 | astrocytoma cell line |
| BTO:0000102 | blood clot |
| BTO:0000103 | Colon 26-L5 cell |
| BTO:0000104 | lymphoma cell line |
| BTO:0000105 | upper epidermis |
| BTO:0000106 | cranial ganglion |
| BTO:0000107 | B95-8 cell |
| BTO:0000108 | olfactory epithelium |
| BTO:0000109 | bacteroid |
| BTO:0000110 | amniotic cell line |
| BTO:0000111 | BALB/3T12-3 cell |
| BTO:0000112 | sieve cell |
| BTO:0000113 | cervical ganglion |
| BTO:0000114 | basidiocarp |
| BTO:0000115 | BC3H1 cell |
| BTO:0000116 | plant epidermis |
| BTO:0000117 | culture condition:benzoate-grown cell |
| BTO:0000118 | culture condition:benzoylformate-grown cell |
| BTO:0000119 | berry |
| BTO:0000120 | BHK-21 cell |
| BTO:0000121 | bile |
| BTO:0000122 | bile duct |
| BTO:0000123 | bladder |
| BTO:0000124 | microspore |
| BTO:0000125 | blast cell |
| BTO:0000126 | blastoderm |
| BTO:0000127 | blastospore |
| BTO:0000128 | blastula |
| BTO:0000129 | basophil |
| BTO:0000130 | neutrophil |
| BTO:0000131 | blood plasma |
| BTO:0000132 | blood platelet |
| BTO:0000133 | blood serum |
| BTO:0000134 | bloodstream form |
| BTO:0000135 | aorta |
| BTO:0000136 | bronchoalveolar system |
| BTO:0000137 | pulmonary artery endothelium |
| BTO:0000138 | midbrain |
| BTO:0000139 | body wall |
| BTO:0000140 | bone |
| BTO:0000141 | bone marrow |
| BTO:0000142 | brain |
| BTO:0000143 | substantia nigra |
| BTO:0000144 | meninx |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0000145 | brain myelin |
| BTO:0000146 | brain stem |
| BTO:0000147 | microgametophyte |
| BTO:0000148 | branch |
| BTO:0000149 | breast |
| BTO:0000150 | breast cancer cell |
| BTO:0000151 | extensor |
| BTO:0000152 | infected cell |
| BTO:0000153 | Walker carcinoma 256 cell |
| BTO:0000154 | BRL-3A cell |
| BTO:0000155 | bronchoalveolar lavage |
| BTO:0000156 | brown adipose tissue |
| BTO:0000157 | aorta thoracica |
| BTO:0000158 | plant bud |
| BTO:0000159 | bulb |
| BTO:0000160 | bundle sheath |
| BTO:0000161 | lung fibroblast cell line |
| BTO:0000162 | culture condition:butyrate-grown cell |
| BTO:0000163 | corolla |
| BTO:0000164 | Burkitt lymphoma cell |
| BTO:0000165 | C2C12 cell |
| BTO:0000166 | cecum |
| BTO:0000167 | adenocarcinoma cell line |
| BTO:0000168 | carotid artery |
| BTO:0000169 | calyx |
| BTO:0000170 | cambium |
| BTO:0000171 | L-cell |
| BTO:0000172 | pileus |
| BTO:0000173 | fruit capsule |
| BTO:0000174 | embryonic structure |
| BTO:0000175 | epithalamus |
| BTO:0000176 | carcinoma cell |
| BTO:0000177 | BG-1 cell |
| BTO:0000178 | adenoma cell |
| BTO:0000179 | Colo-205 cell |
| BTO:0000180 | cervical carcinoma cell |
| BTO:0000181 | Lewis lung carcinoma cell line |
| BTO:0000182 | HT-29 cell |
| BTO:0000183 | pancreatic cell line |
| BTO:0000184 | medullary thyroid carcinoma cell |
| BTO:0000185 | medullary breast carcinoma cell |
| BTO:0000186 | lobular carcinoma cell |
| BTO:0000187 | myeloblast |
| BTO:0000188 | colonic cell line |
| BTO:0000189 | small cell lung cancer cell |
| BTO:0000190 | Ehrlich tumor carcinoma cell |
| BTO:0000191 | medullary carcinoma cell |
| BTO:0000192 | nasopharyngeal carcinoma cell |
| BTO:0000193 | rectal cancer cell |
| BTO:0000194 | endometrioid carcinoma cell |
| BTO:0000195 | CACO-2 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0000196 | thyroid cancer cell |
| BTO:0000197 | carcinosarcoma cell |
| BTO:0000198 | cardia |
| BTO:0000199 | cardiac muscle |
| BTO:0000200 | culture condition:2-chloropropionate-grown cell |
| BTO:0000201 | pheochromocytoma cell line |
| BTO:0000202 | sense organ |
| BTO:0000203 | respiratory system |
| BTO:0000204 | carotid body |
| BTO:0000205 | nerve plexus |
| BTO:0000206 | cartilage |
| BTO:0000207 | tibial cartilage |
| BTO:0000208 | caryopsis |
| BTO:0000209 | corpus epididymis |
| BTO:0000210 | cauda epididymis |
| BTO:0000211 | caudate nucleus |
| BTO:0000212 | caudate putamen |
| BTO:0000213 | cecum mucosa |
| BTO:0000214 | cell culture |
| BTO:0000215 | culture condition:galactonate-grown cell |
| BTO:0000216 | culture condition |
| BTO:0000217 | MH-7777A cell |
| BTO:0000218 | BALB/3T3 cell |
| BTO:0000219 | plastron |
| BTO:0000220 | MH1C1 cell |
| BTO:0000221 | cell suspension culture |
| BTO:0000222 | myoblast |
| BTO:0000223 | teratocarcinoma cell |
| BTO:0000224 | liver cell line |
| BTO:0000225 | CEM cell |
| BTO:0000226 | gitter cell |
| BTO:0000227 | central nervous system |
| BTO:0000228 | C-1300 cell |
| BTO:0000229 | centrum semiovale |
| BTO:0000230 | subarachnoid space |
| BTO:0000231 | cerebral hemisphere |
| BTO:0000232 | cerebellum |
| BTO:0000233 | cerebral cortex |
| BTO:0000234 | vein |
| BTO:0000235 | basal ganglion |
| BTO:0000236 | cerebral white matter |
| BTO:0000237 | cerebrospinal fluid |
| BTO:0000238 | cerebrovascular endothelial cell |
| BTO:0000239 | telencephalon |
| BTO:0000240 | inferior cervical ganglion |
| BTO:0000241 | cervical epithelium |
| BTO:0000242 | cervical mucus |
| BTO:0000243 | vagina |
| BTO:0000244 | culture condition:chlorobenzene-induced cell |
| BTO:0000245 | culture condition:chlorobenzoate-grown cell |
| BTO:0000246 | CHO cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0000247 | shoot tip |
| BTO:0000248 | chondroblast |
| BTO:0000249 | chondrocyte |
| BTO:0000250 | chondrosarcoma cell |
| BTO:0000251 | chorioallantois |
| BTO:0000252 | chorion |
| BTO:0000253 | BEN cell |
| BTO:0000254 | female reproductive gland |
| BTO:0000255 | brain cell line |
| BTO:0000256 | myoblast cell line |
| BTO:0000257 | uterine cancer cell |
| BTO:0000258 | choroid plexus |
| BTO:0000259 | chromaffin cell |
| BTO:0000260 | ciliary body |
| BTO:0000261 | culture condition:mannitol-grown cell |
| BTO:0000262 | clove |
| BTO:0000263 | P-388D1(IL-1) cell |
| BTO:0000264 | bone marrow cell line |
| BTO:0000265 | coagulating gland |
| BTO:0000266 | cob |
| BTO:0000267 | cochlea |
| BTO:0000268 | coleoptile |
| BTO:0000269 | colon |
| BTO:0000270 | colon ascendens |
| BTO:0000271 | colonic mucosa |
| BTO:0000272 | colon transversum |
| BTO:0000273 | ink gland |
| BTO:0000274 | apical bud |
| BTO:0000275 | colonocyte |
| BTO:0000276 | colostrum |
| BTO:0000277 | columnella muscle |
| BTO:0000278 | commercial preparation |
| BTO:0000279 | testicular cancer cell |
| BTO:0000280 | cone |
| BTO:0000281 | conidiophore |
| BTO:0000282 | head |
| BTO:0000283 | conidium |
| BTO:0000284 | organism form |
| BTO:0000285 | corm |
| BTO:0000286 | cornea |
| BTO:0000287 | corneal epithelium |
| BTO:0000288 | corona |
| BTO:0000289 | cytotoxic T-lymphocyte |
| BTO:0000290 | coronary artery |
| BTO:0000291 | corpus allatum |
| BTO:0000292 | corpus luteum |
| BTO:0000293 | occipital lobe |
| BTO:0000294 | dermis |
| BTO:0000295 | WEHI-3 cell |
| BTO:0000296 | SW-1088 cell |
| BTO:0000297 | carcinoma cell line |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0000298 | COS-7 cell |
| BTO:0000299 | cotton fibre |
| BTO:0000300 | cotyledon |
| BTO:0000301 | crop |
| BTO:0000302 | ring gland |
| BTO:0000303 | crown gall |
| BTO:0000304 | PANC-1 cell |
| BTO:0000305 | crypt |
| BTO:0000306 | teratocarcinoma cell line |
| BTO:0000307 | crystalline style |
| BTO:0000308 | cytotoxic T-lymphocyte cell line |
| BTO:0000309 | bundle sheath cell |
| BTO:0000310 | protophloem |
| BTO:0000311 | culture filtrate |
| BTO:0000312 | motoneuron |
| BTO:0000313 | hypodermis |
| BTO:0000314 | neuroepithelium |
| BTO:0000315 | ectoderm |
| BTO:0000316 | culture medium |
| BTO:0000317 | caulonema |
| BTO:0000318 | CV-1 cell |
| BTO:0000319 | culture condition:cyclohexanol-grown cell |
| BTO:0000320 | cyst |
| BTO:0000321 | plant cuticle |
| BTO:0000322 | cytotrophoblast |
| BTO:0000323 | culture condition:D-mandelate-grown cell |
| BTO:0000324 | culture condition:D-arabinose-induced cell |
| BTO:0000325 | culture condition:D-galactose-grown cell |
| BTO:0000326 | culture condition:D-lyxose-grown cell |
| BTO:0000327 | culture condition:D-mannose-grown cell |
| BTO:0000328 | culture condition:D-phenylglycine-grown cell |
| BTO:0000329 | culture condition:D-ribose-grown cell |
| BTO:0000330 | culture condition:D-ribose-induced cell |
| BTO:0000331 | L-929 cell |
| BTO:0000332 | culture condition:dark-grown cell |
| BTO:0000333 | renal corpuscle |
| BTO:0000334 | decidua parietalis |
| BTO:0000335 | deciduoma cell |
| BTO:0000336 | caput epididymis |
| BTO:0000337 | dental follicle |
| BTO:0000338 | dental plaque |
| BTO:0000339 | dental pulp |
| BTO:0000340 | culture condition:deoxyribonucleoside-induced cell |
| BTO:0000341 | diaphragm |
| BTO:0000342 | diencephalon |
| BTO:0000343 | renal tubule |
| BTO:0000344 | stratum corneum |
| BTO:0000345 | digestive gland |
| BTO:0000346 | digestive juice |
| BTO:0000347 | reticulum |
| BTO:0000348 | omasum |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0000349 | gut cavity |
| BTO:0000350 | culture condition:dimethylamine-grown cell |
| BTO:0000351 | disc |
| BTO:0000352 | culture condition:DL-mandelate-grown cell |
| BTO:0000353 | lung cell line |
| BTO:0000354 | DON cell |
| BTO:0000355 | dormant eye |
| BTO:0000356 | breast cancer cell line |
| BTO:0000357 | nectary |
| BTO:0000358 | McA-RH7777 cell |
| BTO:0000359 | middle cervical ganglion |
| BTO:0000360 | posterior spinal root |
| BTO:0000361 | stratum granulosum |
| BTO:0000362 | urinary bladder cancer cell |
| BTO:0000363 | culture condition:dulcitol-grown cell |
| BTO:0000364 | stratum lucidum |
| BTO:0000365 | duodenum |
| BTO:0000366 | duodenal juice |
| BTO:0000367 | duodenal mucosa |
| BTO:0000368 | ear |
| BTO:0000369 | egg |
| BTO:0000370 | egg white |
| BTO:0000371 | egg yolk |
| BTO:0000372 | bone cancer cell |
| BTO:0000373 | Ehrlich ascites carcinoma cell |
| BTO:0000374 | bone cell line |
| BTO:0000375 | keratinocyte cell line |
| BTO:0000376 | electric organ |
| BTO:0000377 | elementary body |
| BTO:0000378 | elytron |
| BTO:0000379 | embryo |
| BTO:0000380 | embryonic axis |
| BTO:0000381 | embryonic blood |
| BTO:0000382 | Kc cell |
| BTO:0000383 | renal cell carcinoma cell line |
| BTO:0000384 | emulsin |
| BTO:0000385 | bone cancer cell line |
| BTO:0000386 | culture condition:(NH4)2SO4-grown cell |
| BTO:0000387 | endocardium |
| BTO:0000388 | endodermis |
| BTO:0000389 | mature ovarian follicle |
| BTO:0000390 | endosperm |
| BTO:0000391 | DLD-1 cell |
| BTO:0000392 | plasma cell |
| BTO:0000393 | endothelium |
| BTO:0000394 | aorta endothelium |
| BTO:0000395 | alveolar cell |
| BTO:0000396 | EAhy 926 cell |
| BTO:0000397 | tooth |
| BTO:0000398 | enterocyte |
| BTO:0000399 | eosinophil |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0000400 | sarcoma cell line |
| BTO:0000401 | ependymal epithelium |
| BTO:0000402 | epicotyl |
| BTO:0000403 | mastocytoma cell line |
| BTO:0000404 | epidermis |
| BTO:0000405 | penis |
| BTO:0000406 | L-428 cell |
| BTO:0000407 | osteosarcoma cell line |
| BTO:0000408 | epididymis |
| BTO:0000409 | epimastigote |
| BTO:0000410 | immature ovarian follicle |
| BTO:0000411 | cervical mucosa |
| BTO:0000412 | epiphyseal growth plate |
| BTO:0000413 | epiphysis |
| BTO:0000414 | epithelial cell |
| BTO:0000415 | epithelioma cell |
| BTO:0000416 | epithelium |
| BTO:0000417 | bile duct epithelium |
| BTO:0000418 | neostriatum |
| BTO:0000419 | respiratory epithelium |
| BTO:0000420 | neck |
| BTO:0000421 | connective tissue |
| BTO:0000422 | vaginal epithelium |
| BTO:0000423 | epitrochlearis |
| BTO:0000424 | erythrocyte |
| BTO:0000425 | erythrocytic stage |
| BTO:0000426 | erythroleukemia cell |
| BTO:0000427 | pituitary gland cell line |
| BTO:0000428 | culture condition:ethanol-grown cell |
| BTO:0000429 | H69AR cell |
| BTO:0000430 | EUE cell |
| BTO:0000431 | excretory gland |
| BTO:0000432 | corpus cardiacum |
| BTO:0000433 | exocrine acinar cell |
| BTO:0000434 | exocrine pancreas |
| BTO:0000435 | stratum spinosum |
| BTO:0000436 | extensor digitorum longus |
| BTO:0000437 | culture condition:glycerol-grown cell |
| BTO:0000438 | stratum germinativum |
| BTO:0000439 | eye |
| BTO:0000440 | feces |
| BTO:0000442 | fat body |
| BTO:0000443 | adipocyte |
| BTO:0000444 | fat pad |
| BTO:0000445 | cerebral lobe |
| BTO:0000446 | FDCP-Mix cl.A4 cell |
| BTO:0000447 | feather |
| BTO:0000448 | fetal serum |
| BTO:0000449 | fetus |
| BTO:0000450 | fiber |
| BTO:0000451 | fibrillar flight muscle |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0000452 | fibroblast |
| BTO:0000453 | fibroblast cell line |
| BTO:0000454 | 3T6-Swiss albino cell |
| BTO:0000455 | JTC-15 cell |
| BTO:0000456 | plasmacytoma cell line |
| BTO:0000457 | CHO-K1 cell |
| BTO:0000458 | WI-38 cell |
| BTO:0000459 | fibrosarcoma cell |
| BTO:0000460 | fibrosarcoma cell line |
| BTO:0000461 | HSDM1C1 cell |
| BTO:0000462 | fiddlehead |
| BTO:0000463 | filament |
| BTO:0000464 | flagellate |
| BTO:0000465 | flavedo |
| BTO:0000466 | flexor digitorum longus |
| BTO:0000467 | flight muscle |
| BTO:0000468 | floret |
| BTO:0000469 | flower |
| BTO:0000470 | flower bud |
| BTO:0000471 | culture condition:fluorene-grown cell |
| BTO:0000472 | FM3A cell |
| BTO:0000473 | fetal membrane |
| BTO:0000474 | allantois |
| BTO:0000475 | ovarian follicle |
| BTO:0000476 | foot |
| BTO:0000477 | foot muscle |
| BTO:0000478 | forebrain |
| BTO:0000479 | forelimb muscle |
| BTO:0000480 | forestomach |
| BTO:0000481 | culture condition:formate-grown cell |
| BTO:0000482 | renal distal tubule |
| BTO:0000483 | frond |
| BTO:0000484 | frontal lobe |
| BTO:0000485 | culture condition:fructose-grown cell |
| BTO:0000486 | fruit |
| BTO:0000487 | fruit body |
| BTO:0000488 | lower epidermis |
| BTO:0000489 | intestinal cancer cell |
| BTO:0000490 | prostate gland ventral lobe |
| BTO:0000491 | excretion |
| BTO:0000492 | MST cell |
| BTO:0000493 | gall bladder |
| BTO:0000494 | germinal disc |
| BTO:0000495 | gametophyte |
| BTO:0000496 | anterior lobe |
| BTO:0000497 | ganglion |
| BTO:0000498 | gastric cancer cell |
| BTO:0000499 | gastric corpus mucosa |
| BTO:0000500 | gastric epithelium |
| BTO:0000501 | gastric juice |
| BTO:0000502 | gastric fundus |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0000503 | gastric gland |
| BTO:0000504 | pancreatic juice |
| BTO:0000505 | gastric corpus |
| BTO:0000506 | gastrocnemius |
| BTO:0000507 | foregut |
| BTO:0000508 | thorax muscle |
| BTO:0000509 | gastrodermis |
| BTO:0000510 | hindgut |
| BTO:0000511 | gastrointestinal tract |
| BTO:0000512 | primary oocyte |
| BTO:0000513 | culture condition:geranoic acid-induced cell |
| BTO:0000514 | germ |
| BTO:0000515 | haustorium |
| BTO:0000516 | ghost |
| BTO:0000517 | culture condition:5-methylcytosine-grown cell |
| BTO:0000518 | gill |
| BTO:0000519 | gingiva |
| BTO:0000520 | gizzard |
| BTO:0000521 | gizzard smooth muscle |
| BTO:0000522 | gland |
| BTO:0000523 | gleba |
| BTO:0000524 | glia |
| BTO:0000525 | A-875 cell |
| BTO:0000526 | glioma cell |
| BTO:0000527 | glioblastoma cell |
| BTO:0000528 | JTC-27 cell |
| BTO:0000529 | C6 glioma cell |
| BTO:0000530 | renal glomerulus |
| BTO:0000531 | gluteal muscle |
| BTO:0000532 | culture condition:glycine-grown cell |
| BTO:0000533 | culture condition:dihydroxyacetone-grown cell |
| BTO:0000534 | gonad |
| BTO:0000535 | germ cell |
| BTO:0000536 | gracilis muscle |
| BTO:0000537 | nectar |
| BTO:0000538 | alveolar cell type II |
| BTO:0000539 | granulocyte |
| BTO:0000540 | pollen mother cell |
| BTO:0000541 | prostate gland dorsolateral lobe |
| BTO:0000542 | granulosa cell |
| BTO:0000543 | ground meristem |
| BTO:0000544 | guard cell |
| BTO:0000545 | gut |
| BTO:0000546 | gut mucosa |
| BTO:0000547 | gut wall |
| BTO:0000548 | prostate gland lobe |
| BTO:0000549 | culture condition:H2/CO2-grown cell |
| BTO:0000550 | anal plate |
| BTO:0000551 | lung cancer cell |
| BTO:0000552 | HaCaT cell |
| BTO:0000553 | peripheral blood |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0000554 | hair follicle |
| BTO:0000555 | hair root |
| BTO:0000556 | germ layer |
| BTO:0000557 | harderian gland |
| BTO:0000558 | hatching gland |
| BTO:0000559 | hatching liquid |
| BTO:0000560 | haustorial mother cell |
| BTO:0000561 | posterior lobe |
| BTO:0000562 | heart |
| BTO:0000563 | culture condition:aerobically-grown cell |
| BTO:0000564 | heart valve |
| BTO:0000565 | HEL cell |
| BTO:0000566 | pancreatic islet cancer cell |
| BTO:0000567 | HeLa cell |
| BTO:0000568 | HeLa-S3 cell |
| BTO:0000569 | exoerythrocytic stage |
| BTO:0000570 | hematopoietic system |
| BTO:0000571 | hemocyte |
| BTO:0000572 | hemolymph |
| BTO:0000573 | artery |
| BTO:0000574 | hematopoietic cell |
| BTO:0000575 | hepatocyte |
| BTO:0000576 | B-16 cell |
| BTO:0000577 | Morris hepatoma 3924A cell |
| BTO:0000578 | hepatoma cell line |
| BTO:0000579 | eye cancer cell |
| BTO:0000580 | blood cancer cell |
| BTO:0000581 | MOPC-315 cell |
| BTO:0000582 | hepatoma ascites cell line |
| BTO:0000583 | bone marrow cancer cell |
| BTO:0000584 | pancreatic cancer cell |
| BTO:0000585 | intraocular melanoma cell |
| BTO:0000586 | colonic cancer cell |
| BTO:0000587 | C 108 cell |
| BTO:0000588 | LL/2 (LLC1) cell |
| BTO:0000589 | primary meristem |
| BTO:0000590 | Alzheimer specific cell type |
| BTO:0000591 | N1-S1 cell |
| BTO:0000592 | adrenal gland cancer cell |
| BTO:0000593 | Yoshida AH-130 cell |
| BTO:0000594 | liver cancer cell |
| BTO:0000595 | FDCP-1 cell |
| BTO:0000596 | P-19 cell |
| BTO:0000597 | hepatopancreas |
| BTO:0000598 | B5/589 cell |
| BTO:0000599 | Hep-G2 cell |
| BTO:0000600 | heterocyst |
| BTO:0000601 | hippocampus |
| BTO:0000602 | histiocyte |
| BTO:0000603 | pre-B acute lymphoblastic leukemia cell line |
| BTO:0000604 | adenocarcinoma cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0000605 | honey |
| BTO:0000606 | LK-63 cell |
| BTO:0000607 | HTC cell |
| BTO:0000608 | hepatoma cell |
| BTO:0000609 | husk |
| BTO:0000610 | hybridoma cell |
| BTO:0000611 | culture condition:hydroxyproline-induced cell |
| BTO:0000612 | hypha |
| BTO:0000613 | hypocotyl |
| BTO:0000614 | hypothalamus |
| BTO:0000615 | corpus callosum |
| BTO:0000616 | I-cell |
| BTO:0000617 | ileal carcinoid cell |
| BTO:0000618 | ileal lavage fluid |
| BTO:0000619 | ileal mucosa |
| BTO:0000620 | ileum |
| BTO:0000621 | iliopsoas muscle |
| BTO:0000622 | culture condition:cyclopentanol-grown cell |
| BTO:0000623 | culture condition:2-butyne-1,4-diol-grown cell |
| BTO:0000624 | culture condition:cyclohexane-1,2-diol-induced cell |
| BTO:0000625 | culture condition:D-xylose-grown cell |
| BTO:0000626 | culture condition:DL-5-methyltryptophan-grown cell |
| BTO:0000627 | HIT-T15 cell |
| BTO:0000628 | inflorescence |
| BTO:0000629 | ink |
| BTO:0000630 | inner ear |
| BTO:0000631 | culture condition:inositol-deficient-grown cell |
| BTO:0000632 | insulinoma cell |
| BTO:0000633 | intestine-407 cell |
| BTO:0000634 | integument |
| BTO:0000635 | yellow bone marrow |
| BTO:0000636 | internode |
| BTO:0000637 | interphotoreceptor matrix |
| BTO:0000638 | interrenal cell |
| BTO:0000639 | intersegmental muscle |
| BTO:0000640 | intestinal gland |
| BTO:0000641 | colon descendens |
| BTO:0000642 | intestinal mucosa |
| BTO:0000643 | intestinal muscle |
| BTO:0000644 | intestinal juice |
| BTO:0000645 | colon sigmoideum |
| BTO:0000646 | left colon |
| BTO:0000647 | intestinal wall |
| BTO:0000648 | intestine |
| BTO:0000649 | right colon |
| BTO:0000650 | endocrine pancreas |
| BTO:0000651 | small intestine |
| BTO:0000652 | culture condition:mannuronate-grown cell |
| BTO:0000653 | iris |
| BTO:0000654 | ciliary muscle |
| BTO:0000655 | iris smooth muscle |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0000656 | iris sphincter muscle |
| BTO:0000657 | jejunum |
| BTO:0000658 | uterine adenocarcinoma cell |
| BTO:0000659 | juice |
| BTO:0000660 | mycelial cord |
| BTO:0000661 | JURKAT cell |
| BTO:0000662 | nasopharynx |
| BTO:0000663 | juxtaglomerular tumor cell |
| BTO:0000664 | K-562 cell |
| BTO:0000665 | KB cell |
| BTO:0000666 | LoVo cell |
| BTO:0000667 | keratinocyte |
| BTO:0000668 | kernel |
| BTO:0000669 | embryonic cell line |
| BTO:0000670 | KG-1 cell |
| BTO:0000671 | kidney |
| BTO:0000672 | hindbrain |
| BTO:0000673 | metencephalon |
| BTO:0000674 | BHK 165-23 cell |
| BTO:0000675 | SW-620 cell |
| BTO:0000676 | fibroadenoma cell |
| BTO:0000677 | plant tumor tissue |
| BTO:0000678 | G-402 cell |
| BTO:0000679 | blood-lymph |
| BTO:0000680 | kidney cancer cell |
| BTO:0000681 | KM-3 cell |
| BTO:0000682 | Koji culture |
| BTO:0000683 | Krebs ascites cell |
| BTO:0000684 | Krebs II ascites cell |
| BTO:0000685 | Kupffer cell |
| BTO:0000686 | Kurloff cell |
| BTO:0000687 | culture condition:L-mandelite-grown cell |
| BTO:0000688 | culture condition:acetate-grown cell |
| BTO:0000689 | culture condition:L-allo-threonine-grown cell |
| BTO:0000690 | brain cancer cell line |
| BTO:0000691 | culture condition:L-fucose-induced cell |
| BTO:0000692 | culture condition:L-glucose-grown cell |
| BTO:0000693 | culture condition:L-lyxose-induced cell |
| BTO:0000694 | culture condition:L-phenylalanine-grown cell |
| BTO:0000695 | culture condition:L-phenylglycine-grown cell |
| BTO:0000696 | culture condition:L-rhamnose-grown cell |
| BTO:0000697 | culture condition:L-rhamnose-induced cell |
| BTO:0000698 | culture condition:L-ribose-grown cell |
| BTO:0000699 | culture condition:L-serine-grown cell |
| BTO:0000700 | culture condition:L-threonine-grown cell |
| BTO:0000701 | culture condition:L-tyrosine-grown cell |
| BTO:0000702 | L-1210 cell |
| BTO:0000703 | lacquer |
| BTO:0000704 | culture condition:D-lactate-grown cell |
| BTO:0000705 | Langerhans cell |
| BTO:0000706 | large intestine |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-----------------------------------|
| BTO:0000707 | larva |
| BTO:0000708 | larval integument |
| BTO:0000709 | secondary spermatocyte |
| BTO:0000710 | latex |
| BTO:0000711 | glioma cell line |
| BTO:0000712 | laticifer |
| BTO:0000713 | leaf |
| BTO:0000714 | leaf axil |
| BTO:0000715 | leaf base |
| BTO:0000716 | pancreatic beta cell line |
| BTO:0000717 | pericardium |
| BTO:0000718 | leaf epidermis |
| BTO:0000719 | leaf lamina |
| BTO:0000720 | plant form |
| BTO:0000721 | leg |
| BTO:0000722 | leg muscle |
| BTO:0000723 | lens |
| BTO:0000724 | lens fiber |
| BTO:0000725 | hematopoietic stem cell |
| BTO:0000726 | RPMI-8226 cell |
| BTO:0000727 | multiple myeloma cell line |
| BTO:0000728 | Brown Pearce carcinoma cell |
| BTO:0000729 | carcinoid cell |
| BTO:0000730 | endocarp |
| BTO:0000731 | acute lymphoblastic leukemia cell |
| BTO:0000732 | KU-812 cell |
| BTO:0000733 | exocarp |
| BTO:0000734 | myelocyte |
| BTO:0000735 | sporophyte |
| BTO:0000736 | CCRF-CEM cell |
| BTO:0000737 | leukemia cell line |
| BTO:0000738 | HL-60 cell |
| BTO:0000739 | lymphoblastic leukemia cell line |
| BTO:0000740 | myeloid leukemia cell line |
| BTO:0000741 | lymphocytic leukemia cell line |
| BTO:0000742 | myotome |
| BTO:0000743 | pre-B-lymphocyte cell line |
| BTO:0000744 | lymphocytic leukemia cell |
| BTO:0000745 | Lewis lung carcinoma cell |
| BTO:0000746 | preadipocyte cell line |
| BTO:0000747 | sporangiospore |
| BTO:0000748 | P-388 cell |
| BTO:0000749 | sporozoan form |
| BTO:0000750 | plant ovary |
| BTO:0000751 | leukocyte |
| BTO:0000752 | lymph vessel |
| BTO:0000753 | lymphoid tissue |
| BTO:0000754 | lewy body |
| BTO:0000755 | Leydig cell |
| BTO:0000756 | pituitary gland tumor cell line |
| BTO:0000757 | plasmodium |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|----------------------------------|
| BTO:0000758 | myelencephalon |
| BTO:0000759 | liver |
| BTO:0000760 | LLC-PK1 cell |
| BTO:0000761 | collecting duct |
| BTO:0000762 | lung cancer cell line |
| BTO:0000763 | lung |
| BTO:0000764 | lung fibroblast |
| BTO:0000765 | exocrine gland |
| BTO:0000766 | blood vessel endothelium |
| BTO:0000767 | mesenteric lymph node |
| BTO:0000768 | infundibulum |
| BTO:0000769 | submandibular lymph node |
| BTO:0000770 | oligodendroglia |
| BTO:0000771 | macrogelia |
| BTO:0000772 | lymphoblast |
| BTO:0000773 | lymphoblastoid cell line |
| BTO:0000774 | lymphoblastoma cell |
| BTO:0000775 | lymphocyte |
| BTO:0000776 | B-lymphocyte |
| BTO:0000777 | adenoid |
| BTO:0000778 | pulmonary artery |
| BTO:0000779 | mesenteric artery |
| BTO:0000780 | alveolar cell type I |
| BTO:0000781 | intestinal epithelium |
| BTO:0000782 | T-lymphocyte |
| BTO:0000783 | pancreatic beta cell |
| BTO:0000784 | lymph node |
| BTO:0000785 | lymphoma cell |
| BTO:0000786 | tongue cancer cell line |
| BTO:0000787 | gastric cancer cell line |
| BTO:0000788 | 70Z/3 cell |
| BTO:0000789 | CA-46 cell |
| BTO:0000790 | pharyngeal cancer cell line |
| BTO:0000791 | BW-5147 cell |
| BTO:0000792 | urinary bladder cancer cell line |
| BTO:0000793 | SH-SY5Y cell |
| BTO:0000794 | pancreatic cancer cell line |
| BTO:0000795 | L-5178-Y cell |
| BTO:0000796 | P-1798 cell |
| BTO:0000797 | colonic cancer cell line |
| BTO:0000798 | BeWo cell |
| BTO:0000799 | lymphosarcoma cell |
| BTO:0000800 | endoderm |
| BTO:0000801 | macrophage |
| BTO:0000802 | alveolar macrophage |
| BTO:0000803 | pancreatic delta cell |
| BTO:0000804 | J-774A.1 cell |
| BTO:0000805 | pancreatic PP cell |
| BTO:0000806 | IC-21 cell |
| BTO:0000807 | chorionic cell line |
| BTO:0000808 | interrenal gland |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0000809 | germ cell cancer cell |
| BTO:0000810 | malpighian tubule |
| BTO:0000811 | ovary cancer cell line |
| BTO:0000812 | OVCAR-3 cell |
| BTO:0000813 | Pt-K1 cell |
| BTO:0000814 | CAOV-3 cell |
| BTO:0000815 | MDA-MB-231 cell |
| BTO:0000816 | breast cell line |
| BTO:0000817 | mammary gland |
| BTO:0000818 | spinal column |
| BTO:0000819 | pharyngeal cell line |
| BTO:0000820 | C127I cell |
| BTO:0000821 | nipple |
| BTO:0000822 | culture condition:mandelate-grown cell |
| BTO:0000823 | cerebral gray matter |
| BTO:0000824 | culture condition:mannose-grown cell |
| BTO:0000825 | mantle |
| BTO:0000826 | mantle cavity |
| BTO:0000827 | mantle muscle |
| BTO:0000828 | throat |
| BTO:0000829 | marrow |
| BTO:0000830 | mast cell |
| BTO:0000831 | liver reticuloendothelial system |
| BTO:0000832 | mastocytoma cell |
| BTO:0000833 | RBL-2H3 cell |
| BTO:0000834 | Detroit 562 cell |
| BTO:0000835 | culture condition:L-idonate-grown cell |
| BTO:0000836 | MDBK cell |
| BTO:0000837 | MDCK cell |
| BTO:0000838 | meconium |
| BTO:0000839 | mesoderm |
| BTO:0000840 | nose |
| BTO:0000841 | umbilical artery |
| BTO:0000842 | megagametophyte |
| BTO:0000843 | megakaryocyte |
| BTO:0000844 | megakaryotic cell line |
| BTO:0000845 | meiotic cell |
| BTO:0000846 | erythroleukemia cell line |
| BTO:0000847 | melanocyte |
| BTO:0000848 | melanoma cell |
| BTO:0000849 | melanoma cell line |
| BTO:0000850 | amelanotic melanoma cell |
| BTO:0000851 | adrenal cortex cell line |
| BTO:0000852 | meristem |
| BTO:0000853 | mesangial cell |
| BTO:0000854 | zygote |
| BTO:0000855 | lymph |
| BTO:0000856 | mesocarp |
| BTO:0000857 | umbilical artery endothelium |
| BTO:0000858 | mesophyll |
| BTO:0000859 | metacestode |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0000860 | CHRB-30 cell |
| BTO:0000861 | culture condition:methanol-grown cell |
| BTO:0000862 | heart ventricle |
| BTO:0000863 | midgut |
| BTO:0000864 | tibialis |
| BTO:0000865 | anterior spinal root |
| BTO:0000866 | midgut secretion |
| BTO:0000867 | tibialis posterior |
| BTO:0000868 | milk |
| BTO:0000869 | milk fat |
| BTO:0000870 | spinal nerve |
| BTO:0000871 | RAG cell |
| BTO:0000872 | oligodendrocytic cell line |
| BTO:0000873 | MOLT-4 cell |
| BTO:0000874 | molting gland |
| BTO:0000875 | N20.1 cell |
| BTO:0000876 | monocyte |
| BTO:0000877 | culture condition:trehalose-grown cell |
| BTO:0000878 | mononuclear cell |
| BTO:0000879 | lateral ventricle |
| BTO:0000880 | culture condition:alkane-grown cell |
| BTO:0000881 | Morris hepatoma 7777 cell |
| BTO:0000882 | culture condition:p-hydroxyphenylacetic acid-grown cell |
| BTO:0000883 | spinal root |
| BTO:0000884 | molting fluid |
| BTO:0000885 | tongue cell line |
| BTO:0000886 | mucosa |
| BTO:0000887 | muscle |
| BTO:0000888 | muscle fibre |
| BTO:0000889 | Burkitt lymphoma cell line |
| BTO:0000890 | mycelial felt |
| BTO:0000891 | NTERA-2 cell |
| BTO:0000892 | mycobiont |
| BTO:0000893 | mycorrhiza |
| BTO:0000894 | myelin |
| BTO:0000895 | myelin membrane |
| BTO:0000896 | bag cell neuron |
| BTO:0000897 | amnion epithelium |
| BTO:0000898 | myeloma cell |
| BTO:0000899 | myeloma cell line |
| BTO:0000900 | myelin sheath |
| BTO:0000901 | myocardium |
| BTO:0000902 | plant vessel |
| BTO:0000903 | atrium |
| BTO:0000904 | culture condition:beta-aminoisobutyrate-grown cell |
| BTO:0000905 | culture condition:myoinositol-grown cell |
| BTO:0000906 | myeloid cell line |
| BTO:0000907 | myometrium |
| BTO:0000908 | myrosin cell |
| BTO:0000909 | myxospore |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0000910 | culture condition:N-acetyl-D-glucosamine-grown cell |
| BTO:0000911 | culture condition:N-acetyl-D-mannosamine-grown cell |
| BTO:0000912 | nasal mucosa |
| BTO:0000913 | nasal polyp |
| BTO:0000914 | natural killer cell |
| BTO:0000915 | nauplius |
| BTO:0000916 | NC37 cell |
| BTO:0000917 | needle |
| BTO:0000918 | nematocyst |
| BTO:0000919 | 8305C cell |
| BTO:0000920 | neocortex |
| BTO:0000921 | CAL-27 cell |
| BTO:0000922 | neostriatal neuron |
| BTO:0000923 | nephridium |
| BTO:0000924 | nephron |
| BTO:0000925 | nerve |
| BTO:0000926 | ophthalmic nerve |
| BTO:0000927 | nerve trunk |
| BTO:0000928 | limbic system |
| BTO:0000929 | neural retina |
| BTO:0000930 | neuroblast |
| BTO:0000931 | neuroblastoma cell |
| BTO:0000932 | neuroblastoma cell line |
| BTO:0000933 | N18TG2 cell |
| BTO:0000934 | IMR-32 cell |
| BTO:0000935 | LAN-5 cell |
| BTO:0000936 | neurofibrillary tangle |
| BTO:0000937 | neurohypophysis |
| BTO:0000938 | neuron |
| BTO:0000939 | basal cell |
| BTO:0000940 | juice vesicle |
| BTO:0000941 | CAL-33 cell |
| BTO:0000942 | NC-108-15 cell |
| BTO:0000943 | culture condition:nicotinic acid-grown cell |
| BTO:0000944 | NIH-3T3 cell |
| BTO:0000945 | CAL-51 cell |
| BTO:0000946 | NT2/D1 cell |
| BTO:0000947 | neuronal cell line |
| BTO:0000948 | SKOV-3 cell |
| BTO:0000949 | Novikoff ascites tumor cell |
| BTO:0000950 | Novikoff hepatoma cell |
| BTO:0000951 | NRK cell |
| BTO:0000952 | nuchal ligament |
| BTO:0000953 | nurse cell |
| BTO:0000954 | nymph |
| BTO:0000955 | laryngeal cell line |
| BTO:0000956 | gut epithelium |
| BTO:0000957 | nape |
| BTO:0000958 | spermatogonium |
| BTO:0000959 | esophagus |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0000960 | UT-7 cell |
| BTO:0000961 | olfactory bulb |
| BTO:0000962 | oligodendrocyte |
| BTO:0000963 | oligodendrogloma cell |
| BTO:0000964 | oocyte |
| BTO:0000965 | optic lobe |
| BTO:0000966 | optic nerve |
| BTO:0000967 | osseous plate |
| BTO:0000968 | osteoclast |
| BTO:0000969 | osteoclastoma cell |
| BTO:0000970 | osteosarcoma cell |
| BTO:0000971 | SAOS-2 cell |
| BTO:0000972 | HEP-3B cell |
| BTO:0000973 | respiratory mucosa |
| BTO:0000974 | culture condition:sulfite-grown cell |
| BTO:0000975 | ovary |
| BTO:0000976 | HEp-2 cell |
| BTO:0000977 | ovary cell line |
| BTO:0000978 | CMK cell |
| BTO:0000979 | PANC-3 cell |
| BTO:0000980 | oviduct |
| BTO:0000981 | ovotestis |
| BTO:0000982 | culture condition:p-cresol-grown cell |
| BTO:0000983 | culture condition:p-toluate-grown cell |
| BTO:0000984 | P-388D1 cell |
| BTO:0000985 | P-815 cell |
| BTO:0000986 | pachytene cell |
| BTO:0000987 | palisade parenchyma |
| BTO:0000988 | pancreas |
| BTO:0000989 | taste bud |
| BTO:0000990 | pancreatic alpha cell |
| BTO:0000991 | pancreatic islet |
| BTO:0000992 | tongue epithelium |
| BTO:0000993 | paneth cell |
| BTO:0000994 | RBL-1 cell |
| BTO:0000995 | paramyeloblast |
| BTO:0000996 | gametocyte |
| BTO:0000997 | parathyroid gland |
| BTO:0000998 | paraveinal mesophyll |
| BTO:0000999 | plant parenchyma |
| BTO:0001000 | acute megakaryocytic leukemia cell line |
| BTO:0001001 | parietal lobe |
| BTO:0001002 | schizont |
| BTO:0001003 | parotid acinar cell |
| BTO:0001004 | parotid gland |
| BTO:0001005 | amnion epithelial cell |
| BTO:0001006 | pelvis |
| BTO:0001007 | AGS cell |
| BTO:0001008 | PBMC cell line |
| BTO:0001009 | PC-12 cell |
| BTO:0001010 | callus |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0001011 | cerebellar Purkinje cell |
| BTO:0001012 | pedal ganglion |
| BTO:0001013 | pedal muscle |
| BTO:0001014 | Mo-T cell |
| BTO:0001015 | culture condition:pentanoate-grown cell |
| BTO:0001016 | pericardial fluid |
| BTO:0001017 | pericarp |
| BTO:0001018 | basophilic leukemia cell line |
| BTO:0001019 | prostate gland cell line |
| BTO:0001020 | periodontal ligament |
| BTO:0001021 | periodontium |
| BTO:0001022 | periosteum |
| BTO:0001023 | ovary cancer cell |
| BTO:0001024 | retinal rod |
| BTO:0001025 | peripheral blood mononuclear cell |
| BTO:0001026 | polymorphonuclear leukocyte |
| BTO:0001027 | peripheral nerve |
| BTO:0001028 | peripheral nervous system |
| BTO:0001029 | perisperm |
| BTO:0001030 | J774.2 cell |
| BTO:0001031 | peritoneal fluid |
| BTO:0001032 | cardiac Purkinje cell |
| BTO:0001033 | prostate cancer cell line |
| BTO:0001034 | peritoneal macrophage |
| BTO:0001035 | hematopoietic cell line |
| BTO:0001036 | retinal cone |
| BTO:0001037 | sensory cell |
| BTO:0001038 | peritrophic membrane |
| BTO:0001039 | peritubular cell |
| BTO:0001040 | petal |
| BTO:0001041 | petiole |
| BTO:0001042 | amygdala |
| BTO:0001043 | adult |
| BTO:0001044 | phagocyte |
| BTO:0001045 | T-lymphocyte cell line |
| BTO:0001046 | pharate pupa |
| BTO:0001047 | pharyngeal mucosa |
| BTO:0001048 | pharyngeal muscle |
| BTO:0001049 | pharynx |
| BTO:0001050 | culture condition:phenol-grown cell |
| BTO:0001051 | culture condition:phenylacetic acid-grown cell |
| BTO:0001052 | ND-1 cell |
| BTO:0001053 | culture condition:phenylglyoxylate-grown cell |
| BTO:0001054 | pheochromocytoma cell |
| BTO:0001055 | ovarian epithelial cell |
| BTO:0001056 | myeloid leukemia cell |
| BTO:0001057 | neural tube |
| BTO:0001058 | phloem |
| BTO:0001059 | culture condition:phosphonoacetate-grown cell |
| BTO:0001060 | photoreceptor |
| BTO:0001061 | PC-3 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0001062 | PPC-1 cell |
| BTO:0001063 | phrenic nerve |
| BTO:0001064 | phycobiont |
| BTO:0001065 | Tsu-Pr1 cell |
| BTO:0001066 | hippocampal pyramidal layer |
| BTO:0001067 | pineal gland |
| BTO:0001068 | pinealocyte |
| BTO:0001069 | pitcher |
| BTO:0001070 | pitcher secretion |
| BTO:0001071 | pith |
| BTO:0001072 | trigeminal nerve |
| BTO:0001073 | hypophysis |
| BTO:0001074 | trigeminal nucleus |
| BTO:0001075 | motor trigeminal nucleus |
| BTO:0001076 | pituitary gland tumor cell |
| BTO:0001077 | AtT-20 cell |
| BTO:0001078 | placenta |
| BTO:0001079 | trophoblast |
| BTO:0001080 | Morris hepatoma cell |
| BTO:0001081 | MOLT-3 cell |
| BTO:0001082 | MM46 cell |
| BTO:0001083 | MH134 cell |
| BTO:0001084 | plantlet |
| BTO:0001085 | vascular system |
| BTO:0001086 | embryonic stem cell |
| BTO:0001087 | plasmacytoma cell |
| BTO:0001088 | gastric cell line |
| BTO:0001089 | MPC-11 cell |
| BTO:0001090 | mouth |
| BTO:0001091 | axenic culture |
| BTO:0001092 | KATO-III cell |
| BTO:0001093 | WEHI-231 cell |
| BTO:0001094 | pre-B acute lymphoblastic leukemia cell |
| BTO:0001095 | pod |
| BTO:0001096 | lymphoid cell |
| BTO:0001097 | pollen |
| BTO:0001098 | sorocarp |
| BTO:0001099 | blastocyst |
| BTO:0001100 | B-cell acute lymphoblastic leukemia cell |
| BTO:0001101 | pons |
| BTO:0001102 | blood vessel |
| BTO:0001103 | skeletal muscle |
| BTO:0001104 | cranial nerve |
| BTO:0001105 | insular cortex |
| BTO:0001106 | T-cell acute lymphoblastic leukemia cell |
| BTO:0001107 | preadipocyte |
| BTO:0001108 | mitral cell layer |
| BTO:0001109 | HCT-116 cell |
| BTO:0001110 | prepupa |
| BTO:0001111 | preputial gland |
| BTO:0001112 | preputial gland tumor cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0001113 | prepuce |
| BTO:0001114 | primary leaf |
| BTO:0001115 | primary spermatocyte |
| BTO:0001116 | floral primordium |
| BTO:0001117 | proboscis |
| BTO:0001118 | P3X63Aq8 cell |
| BTO:0001119 | procambium |
| BTO:0001120 | epithelial cell line |
| BTO:0001121 | cauline leaf |
| BTO:0001122 | procyclic form |
| BTO:0001123 | peripheral ganglion |
| BTO:0001124 | promastigote |
| BTO:0001125 | culture condition:propanediol-grown cell |
| BTO:0001126 | culture condition:propionate-grown cell |
| BTO:0001127 | primary culture |
| BTO:0001128 | prostasome |
| BTO:0001129 | prostate gland |
| BTO:0001130 | prostate gland cancer cell |
| BTO:0001131 | BHK cell |
| BTO:0001132 | shoot base |
| BTO:0001133 | pre-B-lymphocyte |
| BTO:0001134 | protonema |
| BTO:0001135 | protoxylem |
| BTO:0001136 | proventriculus |
| BTO:0001137 | right colon mucosa |
| BTO:0001138 | somatic embryo |
| BTO:0001139 | pseudoplasmodium |
| BTO:0001140 | psoas |
| BTO:0001141 | pulmonary artery endothelial cell |
| BTO:0001142 | pulp |
| BTO:0001143 | pupa |
| BTO:0001144 | chloronema |
| BTO:0001145 | pre-T-lymphocyte |
| BTO:0001146 | pyloric region |
| BTO:0001147 | culture condition:pyridoxine-grown cell |
| BTO:0001148 | BALL-1 cell |
| BTO:0001149 | quadriceps |
| BTO:0001150 | culture condition:quinaldine-grown cell |
| BTO:0001151 | MOLT-4F cell |
| BTO:0001152 | radicle |
| BTO:0001153 | radular muscle |
| BTO:0001154 | RAJI cell |
| BTO:0001155 | ray cell |
| BTO:0001156 | node |
| BTO:0001157 | rectal gland |
| BTO:0001158 | rectum |
| BTO:0001159 | aorta thoracica smooth muscle |
| BTO:0001160 | red bone marrow |
| BTO:0001161 | chorionic villus |
| BTO:0001162 | apocrine gland |
| BTO:0001163 | REH cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0001164 | megakaryoblast |
| BTO:0001165 | renal artery |
| BTO:0001166 | renal cortex |
| BTO:0001167 | renal medulla |
| BTO:0001168 | rennet |
| BTO:0001169 | 3T3-F442A cell |
| BTO:0001170 | resting cell |
| BTO:0001171 | spore |
| BTO:0001172 | reticulate body |
| BTO:0001173 | reticulocyte |
| BTO:0001174 | reticuloendothelial system |
| BTO:0001175 | retina |
| BTO:0001176 | endothelial cell |
| BTO:0001177 | retinal pigment epithelium |
| BTO:0001178 | retinoblastoma cell |
| BTO:0001179 | rhizophore |
| BTO:0001180 | idioblast |
| BTO:0001181 | rhizome |
| BTO:0001182 | primary root |
| BTO:0001183 | secondary root |
| BTO:0001184 | rind |
| BTO:0001185 | RINm5F cell |
| BTO:0001186 | receptacle |
| BTO:0001187 | roe |
| BTO:0001188 | root |
| BTO:0001189 | FAZA cell |
| BTO:0001190 | root nodule |
| BTO:0001191 | root tip |
| BTO:0001192 | rootlet |
| BTO:0001193 | C-127 cell |
| BTO:0001194 | rumen |
| BTO:0001195 | rumen epithelium |
| BTO:0001196 | SF-21 cell |
| BTO:0001197 | S-180 cell |
| BTO:0001198 | atrial gland |
| BTO:0001199 | EBTr (NBL-4) cell |
| BTO:0001200 | aorta thoracica smooth muscle cell line |
| BTO:0001201 | rosette |
| BTO:0001202 | saliva |
| BTO:0001203 | salivary gland |
| BTO:0001204 | salt gland |
| BTO:0001205 | RT4-D6P2T cell |
| BTO:0001206 | sarcocarp |
| BTO:0001207 | sarcoma cell |
| BTO:0001208 | larynx |
| BTO:0001209 | umbilical cord cell line |
| BTO:0001210 | SGS cell |
| BTO:0001211 | breast epithelial cell |
| BTO:0001212 | Rous sarcoma cell |
| BTO:0001213 | Yoshida ascites sarcoma cell |
| BTO:0001214 | Yoshida sarcoma cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-----------------------------------|
| BTO:0001215 | sartorius |
| BTO:0001216 | Schwann cell line |
| BTO:0001217 | scape |
| BTO:0001218 | scapula |
| BTO:0001219 | MEB-4 cell |
| BTO:0001220 | Schwann cell |
| BTO:0001221 | sciatic nerve |
| BTO:0001222 | sclerenchyma |
| BTO:0001223 | scutellum |
| BTO:0001224 | second instar larva |
| BTO:0001225 | MKN-45 cell |
| BTO:0001226 | seed |
| BTO:0001227 | seed coat |
| BTO:0001228 | seedling |
| BTO:0001229 | IMR-90 cell |
| BTO:0001230 | semen |
| BTO:0001231 | trigeminal ganglion |
| BTO:0001232 | seminal plasma |
| BTO:0001233 | plant embryo |
| BTO:0001234 | seminal vesicle |
| BTO:0001235 | seminiferous tubule |
| BTO:0001236 | semitendinosus |
| BTO:0001237 | sensillum |
| BTO:0001238 | Sertoli cell |
| BTO:0001239 | serum |
| BTO:0001240 | SF-9 cell |
| BTO:0001241 | shell gland |
| BTO:0001242 | fetal cell line |
| BTO:0001243 | shoot |
| BTO:0001244 | urinary tract |
| BTO:0001245 | bronchoalveolar stem cell |
| BTO:0001246 | flexor digitorum profundus |
| BTO:0001247 | sieve tube |
| BTO:0001248 | T-47D cell |
| BTO:0001249 | silique |
| BTO:0001250 | silk gland |
| BTO:0001251 | liver sinusoidal endothelial cell |
| BTO:0001252 | tibia |
| BTO:0001253 | skin |
| BTO:0001254 | sweat |
| BTO:0001255 | skin fibroblast |
| BTO:0001256 | parasympathetic ganglion |
| BTO:0001257 | flexor |
| BTO:0001258 | small intestine epithelium |
| BTO:0001259 | small intestine mucosa |
| BTO:0001260 | smooth muscle |
| BTO:0001261 | abdominal muscle |
| BTO:0001262 | soft body part |
| BTO:0001263 | Friend erythroleukemia cell line |
| BTO:0001264 | spinal ganglion |
| BTO:0001265 | soleus |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|------------------------------|
| BTO:0001266 | invertebrate muscular system |
| BTO:0001267 | BmN cell |
| BTO:0001268 | somatic cell |
| BTO:0001269 | spadix |
| BTO:0001270 | spear |
| BTO:0001271 | leukemia cell |
| BTO:0001272 | sperm flagellum |
| BTO:0001273 | spermatheca |
| BTO:0001274 | spermatid |
| BTO:0001275 | spermatocyte |
| BTO:0001276 | pollen tube |
| BTO:0001277 | spermatozoon |
| BTO:0001278 | spike |
| BTO:0001279 | spinal cord |
| BTO:0001280 | BmN4-IR cell |
| BTO:0001281 | spleen |
| BTO:0001282 | HT-1080 cell |
| BTO:0001283 | mitral cell |
| BTO:0001284 | femur |
| BTO:0001285 | sporangiophore |
| BTO:0001286 | skin cancer cell |
| BTO:0001287 | sporangium |
| BTO:0001288 | adductor brevis |
| BTO:0001289 | squamous cell carcinoma cell |
| BTO:0001290 | sporocarp |
| BTO:0001291 | sporophore |
| BTO:0001292 | sporozoite |
| BTO:0001293 | sporulated oocyst |
| BTO:0001294 | sporulating cell |
| BTO:0001295 | cranium |
| BTO:0001296 | sprout |
| BTO:0001297 | sputum |
| BTO:0001298 | basal cell carcinoma cell |
| BTO:0001299 | stele |
| BTO:0001300 | stem |
| BTO:0001301 | bark |
| BTO:0001302 | sternum |
| BTO:0001303 | stigma |
| BTO:0001304 | stipe |
| BTO:0001305 | stipule |
| BTO:0001306 | stolon |
| BTO:0001307 | stomach |
| BTO:0001308 | gastric mucosa |
| BTO:0001309 | tuberous root |
| BTO:0001310 | storage tissue |
| BTO:0001311 | corpus striatum |
| BTO:0001312 | adductor magnus |
| BTO:0001313 | style |
| BTO:0001314 | subcutis |
| BTO:0001315 | sublingual gland |
| BTO:0001316 | submandibular gland |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0001317 | glomerular layer |
| BTO:0001318 | submandibular ganglion |
| BTO:0001319 | external plexiform layer |
| BTO:0001320 | internal plexiform layer |
| BTO:0001321 | LNCaP cell |
| BTO:0001322 | culture condition:succinate-grown cell |
| BTO:0001323 | BPH-1 cell |
| BTO:0001324 | culture condition:sulfate-grown cell |
| BTO:0001325 | superior cervical ganglion |
| BTO:0001326 | cholangiocarcinoma cell |
| BTO:0001327 | granule cell layer |
| BTO:0001328 | calvarium |
| BTO:0001329 | gastrinoma cell |
| BTO:0001330 | hepatoma ascites cell |
| BTO:0001331 | sweat gland |
| BTO:0001332 | DU-145 cell |
| BTO:0001333 | sympathetic ganglion |
| BTO:0001334 | papilloma cell |
| BTO:0001335 | syncytiotrophoblast |
| BTO:0001336 | synovial fibroblast |
| BTO:0001337 | extensor digitorum brevis |
| BTO:0001338 | synovial tissue |
| BTO:0001339 | synovia |
| BTO:0001340 | bronchus |
| BTO:0001341 | S-49 cell |
| BTO:0001342 | A3 cell |
| BTO:0001343 | extensor digitorum communis |
| BTO:0001344 | adult T-cell lymphoma cell |
| BTO:0001345 | T-24 cell |
| BTO:0001346 | tachyzoite |
| BTO:0001347 | tadpole |
| BTO:0001348 | tail |
| BTO:0001349 | NRP-152 cell |
| BTO:0001350 | tapetum |
| BTO:0001351 | vomeronasal nerve |
| BTO:0001352 | NRP-154 cell |
| BTO:0001353 | telson |
| BTO:0001354 | telson muscle |
| BTO:0001355 | temporal lobe |
| BTO:0001356 | tendon |
| BTO:0001357 | tentacle |
| BTO:0001358 | culture condition:terephthalate-grown cell |
| BTO:0001359 | medulloblastoma cell line |
| BTO:0001360 | decidua |
| BTO:0001361 | CMT93/69 cell |
| BTO:0001362 | olfactory lobe |
| BTO:0001363 | testis |
| BTO:0001364 | testis sheath |
| BTO:0001365 | thalamus |
| BTO:0001366 | thallus |
| BTO:0001367 | thigh muscle |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0001368 | thorax |
| BTO:0001369 | vertebrate muscular system |
| BTO:0001370 | THP-1 cell |
| BTO:0001371 | iris dilator muscle |
| BTO:0001372 | thymocyte |
| BTO:0001373 | amnion epithelial cell line |
| BTO:0001374 | thymus |
| BTO:0001375 | mandibular nerve |
| BTO:0001376 | thigh |
| BTO:0001377 | thymus lymphoma cell line |
| BTO:0001378 | maxillary nerve |
| BTO:0001379 | thyroid gland |
| BTO:0001380 | mesentery |
| BTO:0001381 | tibial chondrocyte |
| BTO:0001382 | tibialis anterior |
| BTO:0001383 | alveolar bone |
| BTO:0001384 | tissue culture |
| BTO:0001385 | tongue |
| BTO:0001386 | tongue muscle |
| BTO:0001387 | tonsil |
| BTO:0001388 | trachea |
| BTO:0001389 | tracheal epithelium |
| BTO:0001390 | tracheal mucosa |
| BTO:0001391 | tracheal smooth muscle |
| BTO:0001392 | culture condition:trans-aconitate-grown cell |
| BTO:0001393 | mesenchyme |
| BTO:0001394 | trapping leaf |
| BTO:0001395 | trichome |
| BTO:0001396 | trophosome tissue |
| BTO:0001397 | trophozoite |
| BTO:0001398 | trypanomastigote |
| BTO:0001399 | Tay-Sachs disease specific cell type |
| BTO:0001400 | tuber |
| BTO:0001401 | tuber cortex |
| BTO:0001402 | urogenital ridge |
| BTO:0001403 | gastrula |
| BTO:0001404 | Yoshida ascites hepatoma cell line |
| BTO:0001405 | bronchial cancer cell |
| BTO:0001406 | HT-144 cell |
| BTO:0001407 | neuroendocrine tumor cell |
| BTO:0001408 | locus ceruleus |
| BTO:0001409 | ureter |
| BTO:0001410 | GH3 cell |
| BTO:0001411 | twig |
| BTO:0001412 | U-937 cell |
| BTO:0001413 | primary cell |
| BTO:0001415 | umbilical cord |
| BTO:0001416 | umbilical vein endothelium |
| BTO:0001417 | uredospore |
| BTO:0001418 | urinary bladder |
| BTO:0001419 | urine |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0001420 | uropygial gland |
| BTO:0001421 | uterine cervix |
| BTO:0001422 | uterine endometrium |
| BTO:0001423 | uterine lavage |
| BTO:0001424 | uterus |
| BTO:0001425 | V-79 cell |
| BTO:0001426 | urethra |
| BTO:0001427 | vas deferens |
| BTO:0001428 | breast epithelium |
| BTO:0001429 | vascular bundle |
| BTO:0001430 | mammary epithelium |
| BTO:0001431 | vascular smooth muscle |
| BTO:0001432 | vascular tissue |
| BTO:0001433 | mononuclear phagocyte |
| BTO:0001434 | vegetative cell |
| BTO:0001435 | arm |
| BTO:0001436 | mycelium |
| BTO:0001437 | embryonic carcinoma cell line |
| BTO:0001438 | vena cava |
| BTO:0001439 | venom |
| BTO:0001440 | venom gland |
| BTO:0001441 | marrow cell |
| BTO:0001442 | brain ventricle |
| BTO:0001443 | culture condition:veratryl alcohol-grown cell |
| BTO:0001444 | Vero cell |
| BTO:0001445 | tail bud |
| BTO:0001446 | olfactory cortex |
| BTO:0001447 | forearm |
| BTO:0001448 | visceral hump |
| BTO:0001449 | gall bladder epithelium |
| BTO:0001450 | vitelline membrane |
| BTO:0001451 | vitreous humor |
| BTO:0001452 | nasal nerve |
| BTO:0001453 | detrusor |
| BTO:0001454 | thymoma cell |
| BTO:0001455 | thymic carcinoma cell |
| BTO:0001456 | white adipose tissue |
| BTO:0001457 | hip |
| BTO:0001458 | apocrine sweat gland |
| BTO:0001459 | white prepupa |
| BTO:0001460 | thymic cancer cell |
| BTO:0001461 | whole plant |
| BTO:0001462 | bladder wall |
| BTO:0001463 | wing |
| BTO:0001464 | wing disc |
| BTO:0001465 | pericycle |
| BTO:0001466 | BT-20 cell |
| BTO:0001467 | mesocotyl |
| BTO:0001468 | xylem |
| BTO:0001469 | culture condition:xylose-grown cell |
| BTO:0001470 | epidermal cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------------|
| BTO:0001471 | yolk sac |
| BTO:0001472 | peritoneum |
| BTO:0001473 | blastomere |
| BTO:0001474 | yolk sac erythroid cell |
| BTO:0001475 | zoospore |
| BTO:0001476 | mitotic cell |
| BTO:0001477 | photophore |
| BTO:0001478 | zygotene cell |
| BTO:0001479 | culture condition:-grown cell |
| BTO:0001480 | Meynert's basal nucleus |
| BTO:0001481 | plant |
| BTO:0001482 | CTLL-2 cell |
| BTO:0001483 | WiDr cell |
| BTO:0001484 | nervous system |
| BTO:0001485 | muscular system |
| BTO:0001486 | skeletal system |
| BTO:0001487 | adipose tissue |
| BTO:0001488 | endocrine gland |
| BTO:0001489 | whole body |
| BTO:0001490 | other source |
| BTO:0001491 | viscus |
| BTO:0001492 | limb |
| BTO:0001493 | trunk |
| BTO:0001494 | fungus |
| BTO:0001495 | plumule |
| BTO:0001496 | perivascular astrocyte |
| BTO:0001497 | IEC-6 cell |
| BTO:0001498 | renal proximal tubule |
| BTO:0001499 | tear |
| BTO:0001500 | tendril |
| BTO:0001501 | hair |
| BTO:0001502 | hip joint |
| BTO:0001503 | thoracic leg |
| BTO:0001504 | blastodisc |
| BTO:0001505 | loin |
| BTO:0001506 | radula |
| BTO:0001507 | pes anserinus |
| BTO:0001508 | morula |
| BTO:0001509 | umbilical vein |
| BTO:0001510 | rectal cell line |
| BTO:0001511 | tooth germ |
| BTO:0001512 | imago |
| BTO:0001513 | biliary epithelium |
| BTO:0001514 | biliary epithelial cell |
| BTO:0001515 | glomerular epithelium |
| BTO:0001516 | BA/F3 cell |
| BTO:0001517 | FAO cell |
| BTO:0001518 | B-lymphoma cell line |
| BTO:0001519 | endothelial cell line |
| BTO:0001520 | umbilical vein endothelial cell line |
| BTO:0001521 | pancreatic adenocarcinoma cell line |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-----------------------------------|
| BTO:0001522 | B-lymphocyte cell line |
| BTO:0001523 | WIL-2 cell |
| BTO:0001524 | WIL2-NS cell |
| BTO:0001525 | WIL2-S cell |
| BTO:0001526 | renal medulla cell line |
| BTO:0001527 | PAP-HT25 cell |
| BTO:0001528 | B-lymphoblast |
| BTO:0001529 | BSC-40 cell |
| BTO:0001530 | glioblastoma cell line |
| BTO:0001531 | glial cell line |
| BTO:0001532 | rectal cancer cell line |
| BTO:0001533 | gastrointestinal cancer cell |
| BTO:0001534 | SW-948 cell |
| BTO:0001535 | SW-48 cell |
| BTO:0001536 | SW-1417 cell |
| BTO:0001537 | small intestine cell line |
| BTO:0001538 | COS-1 cell |
| BTO:0001539 | parenchyma |
| BTO:0001540 | goblet cell |
| BTO:0001541 | pronephros |
| BTO:0001542 | mesonephron |
| BTO:0001543 | metanephron |
| BTO:0001544 | chronic myeloid leukemia cell |
| BTO:0001545 | acute myeloid leukemia cell |
| BTO:0001546 | chronic lymphocytic leukemia cell |
| BTO:0001547 | sepal |
| BTO:0001548 | labial gland |
| BTO:0001549 | megakaryocytic cell line |
| BTO:0001550 | Dami cell |
| BTO:0001551 | free-living state |
| BTO:0001552 | Yoshida AH-66 cell |
| BTO:0001553 | LS-174T cell |
| BTO:0001554 | 661W cell |
| BTO:0001555 | endometrial cancer cell line |
| BTO:0001556 | Rcho-1 cell |
| BTO:0001557 | SF-767 cell |
| BTO:0001558 | somite |
| BTO:0001559 | stamen |
| BTO:0001560 | testicular cancer cell line |
| BTO:0001561 | DAUDI cell |
| BTO:0001562 | aerial mycelium |
| BTO:0001563 | vastus lateralis |
| BTO:0001564 | rectus femoris |
| BTO:0001565 | HT-29-MTX cell |
| BTO:0001566 | HT-29 G cell |
| BTO:0001567 | MDA-MB-435 cell |
| BTO:0001568 | MDA-MB-436 cell |
| BTO:0001569 | MDA-MB-361 cell |
| BTO:0001570 | MDA-MB-468 cell |
| BTO:0001571 | erythroblast |
| BTO:0001572 | articular cartilage |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-----------------------------|
| BTO:0001573 | brain cancer cell |
| BTO:0001574 | chondrosarcoma cell line |
| BTO:0001575 | choriocarcinoma cell line |
| BTO:0001576 | choriocarcinoma cell |
| BTO:0001577 | esophageal cancer cell |
| BTO:0001578 | esophageal epithelium |
| BTO:0001579 | extraocular muscle |
| BTO:0001580 | ejaculatory duct |
| BTO:0001581 | embryonic stem cell line |
| BTO:0001582 | ES-D3 cell |
| BTO:0001583 | T-98G cell |
| BTO:0001584 | G-361 cell |
| BTO:0001585 | JAR cell |
| BTO:0001586 | lymphoid cell line |
| BTO:0001587 | MEL-HO cell |
| BTO:0001588 | MEL-JUSO cell |
| BTO:0001589 | KLN205 cell |
| BTO:0001590 | MRC-5 cell |
| BTO:0001591 | PA-1 cell |
| BTO:0001592 | meniscus |
| BTO:0001593 | osteoblast |
| BTO:0001594 | U-266 cell |
| BTO:0001595 | WM-266-4 cell |
| BTO:0001596 | MG-63 cell |
| BTO:0001597 | sapling |
| BTO:0001598 | splenocyte |
| BTO:0001599 | SW-1116 cell |
| BTO:0001600 | cuticle |
| BTO:0001601 | epicuticle |
| BTO:0001602 | exocuticle |
| BTO:0001603 | endocuticle |
| BTO:0001604 | eyestalk |
| BTO:0001605 | reticulum trabeculare |
| BTO:0001606 | sclera |
| BTO:0001607 | swim bladder |
| BTO:0001608 | feather calamus |
| BTO:0001609 | LS-180 cell |
| BTO:0001610 | thyroid cancer cell line |
| BTO:0001611 | SW-1736 cell |
| BTO:0001612 | colorectal adenoma cell |
| BTO:0001613 | colon |
| BTO:0001614 | colorectal cell line |
| BTO:0001615 | colorectal cancer cell |
| BTO:0001616 | colorectal cancer cell line |
| BTO:0001617 | DHL-9 cell |
| BTO:0001618 | F28-7 cell |
| BTO:0001619 | skin fibroblast cell line |
| BTO:0001620 | SK-N-SH cell |
| BTO:0001621 | intestinal cancer cell line |
| BTO:0001622 | fibroblastoma cell |
| BTO:0001623 | fibroma cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------|
| BTO:0001624 | femoral artery |
| BTO:0001625 | laryngeal cancer cell |
| BTO:0001626 | laryngeal muscle |
| BTO:0001627 | glottis |
| BTO:0001628 | epiglottis |
| BTO:0001629 | left ventricle |
| BTO:0001630 | right ventricle |
| BTO:0001631 | leiomyosarcoma cell |
| BTO:0001632 | lens cortex |
| BTO:0001633 | lens nucleus |
| BTO:0001634 | leptomeningx |
| BTO:0001635 | pia mater |
| BTO:0001636 | arachnoid mater |
| BTO:0001637 | dura mater |
| BTO:0001638 | blastema |
| BTO:0001639 | bud |
| BTO:0001640 | limb bud |
| BTO:0001641 | bronchial bud |
| BTO:0001642 | liver bud |
| BTO:0001643 | lung bud |
| BTO:0001644 | vascular bud |
| BTO:0001645 | wing bud |
| BTO:0001646 | ureteric bud |
| BTO:0001647 | lip |
| BTO:0001648 | longissimus |
| BTO:0001649 | longissimus capitis |
| BTO:0001650 | longissimus cervicis |
| BTO:0001651 | longissimus thoracis |
| BTO:0001652 | sacrospinalis |
| BTO:0001653 | lung epithelium |
| BTO:0001654 | female cone |
| BTO:0001655 | male cone |
| BTO:0001656 | nerve cord |
| BTO:0001657 | abscission zone |
| BTO:0001658 | aerial part |
| BTO:0001659 | aerial root |
| BTO:0001660 | respiratory smooth muscle |
| BTO:0001661 | alkaline gland |
| BTO:0001662 | allantoic fluid |
| BTO:0001663 | ameloblast |
| BTO:0001664 | hepatoblastoma cell line |
| BTO:0001665 | HB611 cell |
| BTO:0001666 | hepatoblastoma cell |
| BTO:0001667 | HMB-2 cell |
| BTO:0001668 | mast cell line |
| BTO:0001669 | HMC-1 cell |
| BTO:0001670 | HuH-6 cell |
| BTO:0001671 | J-82 cell |
| BTO:0001672 | Mel Ei cell |
| BTO:0001673 | Mel Ju cell |
| BTO:0001674 | Mel Im cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|------------------------------|
| BTO:0001675 | Mel Wei cell |
| BTO:0001676 | PC-12D cell |
| BTO:0001677 | SCHNEIDER-2 cell |
| BTO:0001678 | Th1-cell |
| BTO:0001679 | Th2-cell |
| BTO:0001680 | anus |
| BTO:0001681 | anal sac |
| BTO:0001682 | byssus |
| BTO:0001683 | adenohypophysis tumor cell |
| BTO:0001684 | antler |
| BTO:0001685 | aortic smooth muscle |
| BTO:0001686 | joint |
| BTO:0001687 | asynchronous muscle |
| BTO:0001688 | cochlear ganglion |
| BTO:0001689 | axillary bud |
| BTO:0001690 | B-cell lymphoma cell |
| BTO:0001691 | spiral organ |
| BTO:0001692 | cochlear duct |
| BTO:0001693 | modiolus |
| BTO:0001694 | urinary bladder epithelium |
| BTO:0001695 | blastopore |
| BTO:0001696 | archenteron |
| BTO:0001697 | olfactory gland |
| BTO:0001698 | bulbourethral gland |
| BTO:0001699 | bursa of Fabricius |
| BTO:0001700 | cancellous bone |
| BTO:0001701 | carapace |
| BTO:0001702 | left atrium |
| BTO:0001703 | right atrium |
| BTO:0001704 | twitch muscle |
| BTO:0001705 | vallate papilla |
| BTO:0001706 | cnidoblast |
| BTO:0001707 | coelom |
| BTO:0001708 | coelomic fluid |
| BTO:0001709 | colonic epithelium |
| BTO:0001710 | corpora quadrigemina |
| BTO:0001711 | melanophore |
| BTO:0001712 | dorsal lip |
| BTO:0001713 | dorsum |
| BTO:0001714 | duodenal adenocarcinoma cell |
| BTO:0001715 | ectoplacental cone |
| BTO:0001716 | eggshell |
| BTO:0001717 | BmN4-DR cell |
| BTO:0001718 | embryoid body |
| BTO:0001719 | claw |
| BTO:0001720 | floor plate |
| BTO:0001721 | sternal cartilage |
| BTO:0001722 | enamel organ |
| BTO:0001723 | enamel epithelium |
| BTO:0001724 | ependymocyte |
| BTO:0001725 | floral meristem |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------|
| BTO:0001726 | inflorescence meristem |
| BTO:0001727 | perianth |
| BTO:0001728 | tepal |
| BTO:0001729 | forelimb |
| BTO:0001730 | mesosperm |
| BTO:0001731 | glucagonoma cell |
| BTO:0001732 | gastric antrum |
| BTO:0001733 | gynoecium |
| BTO:0001734 | gut juice |
| BTO:0001735 | cardiac Purkinje fiber |
| BTO:0001736 | vascular cancer cell |
| BTO:0001737 | hemangioendothelioma cell |
| BTO:0001738 | histiocytic lymphoma cell |
| BTO:0001739 | pars tuberalis |
| BTO:0001740 | hypopharynx |
| BTO:0001741 | incisor |
| BTO:0001742 | jejunal mucosa |
| BTO:0001743 | jejunal epithelium |
| BTO:0001744 | jugular vein |
| BTO:0001745 | renal inner medulla |
| BTO:0001746 | renal outer medulla |
| BTO:0001747 | palpus |
| BTO:0001748 | mandible |
| BTO:0001749 | jaw |
| BTO:0001750 | mandibular condyle |
| BTO:0001751 | mandibular ramus |
| BTO:0001752 | invertebrate mandible |
| BTO:0001753 | mandibular organ |
| BTO:0001754 | cheek |
| BTO:0001755 | masseter |
| BTO:0001756 | meningioma cell |
| BTO:0001757 | medulloblastoma cell |
| BTO:0001758 | ocellus |
| BTO:0001759 | molaris |
| BTO:0001760 | myotube |
| BTO:0001761 | nasal vestibule |
| BTO:0001762 | neonate |
| BTO:0001763 | neural arch |
| BTO:0001764 | neural crest |
| BTO:0001765 | neural plate |
| BTO:0001766 | neurula |
| BTO:0001767 | neurosecretory cell |
| BTO:0001768 | notochord |
| BTO:0001769 | odontoblast |
| BTO:0001770 | ciliary epithelium |
| BTO:0001771 | AN3CA cell |
| BTO:0001772 | olfactory organ |
| BTO:0001773 | oocyst |
| BTO:0001774 | oral cancer cell |
| BTO:0001775 | oral epithelium |
| BTO:0001776 | plant ovule |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-------------------------------|
| BTO:0001777 | megasporangium |
| BTO:0001778 | microsporangium |
| BTO:0001779 | palate |
| BTO:0001780 | oxytic cell |
| BTO:0001781 | parathyroid gland cancer cell |
| BTO:0001782 | peritoneal cavity |
| BTO:0001783 | pulvinus |
| BTO:0001784 | Peyer's gland |
| BTO:0001785 | branchial arch |
| BTO:0001786 | pheromone gland |
| BTO:0001787 | pars distalis |
| BTO:0001788 | pars intermedia |
| BTO:0001789 | neural lobe |
| BTO:0001790 | pleopod |
| BTO:0001791 | pleura |
| BTO:0001792 | portal vein |
| BTO:0001793 | tectum mesencephali |
| BTO:0001794 | posterior silk gland |
| BTO:0001795 | anterior silk gland |
| BTO:0001796 | preoptic area |
| BTO:0001797 | promyelocytic leukemia cell |
| BTO:0001798 | prothallium |
| BTO:0001799 | pulmonary vein |
| BTO:0001800 | retinal ganglion cell |
| BTO:0001801 | skeletal muscle cancer cell |
| BTO:0001802 | rhabdomyosarcoma cell |
| BTO:0001803 | retrocerebral complex |
| BTO:0001804 | root hair |
| BTO:0001805 | saccule |
| BTO:0001806 | visceral mass |
| BTO:0001807 | utricle |
| BTO:0001808 | saphenous vein |
| BTO:0001809 | scalp |
| BTO:0001810 | sclerotium |
| BTO:0001811 | seminiferous epithelium |
| BTO:0001812 | slow twitch muscle fiber |
| BTO:0001813 | fast twitch muscle fiber |
| BTO:0001814 | leaf tip |
| BTO:0001815 | stellate ganglion |
| BTO:0001816 | stem nodule |
| BTO:0001817 | stolon tip |
| BTO:0001818 | stomach smooth muscle |
| BTO:0001819 | stria vascularis |
| BTO:0001820 | subcommisural organ |
| BTO:0001821 | subesophageal ganglion |
| BTO:0001822 | suprachiasmatic nucleus |
| BTO:0001823 | synovium |
| BTO:0001824 | synovial sarcoma cell |
| BTO:0001825 | T-cell lymphoma cell |
| BTO:0001826 | T-lymphoblast |
| BTO:0001827 | tail fin |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------|
| BTO:0001828 | tapetum lucidum |
| BTO:0001829 | choroid |
| BTO:0001830 | tassel |
| BTO:0001831 | thoracic ganglion |
| BTO:0001832 | sympathetic nervous system |
| BTO:0001833 | parasympathetic nervous system |
| BTO:0001834 | sympathetic chain |
| BTO:0001835 | vertebral ganglion |
| BTO:0001836 | thymic epithelium |
| BTO:0001837 | serous gland |
| BTO:0001838 | tooth bud |
| BTO:0001839 | dental papilla |
| BTO:0001840 | trophectoderm |
| BTO:0001841 | parietal ganglion |
| BTO:0001842 | pleural ganglion |
| BTO:0001843 | cerebral ganglion |
| BTO:0001844 | tooth enamel |
| BTO:0001845 | bronchial epithelium |
| BTO:0001846 | bronchial mucosa |
| BTO:0001847 | umbilical smooth muscle |
| BTO:0001848 | urophysis |
| BTO:0001849 | urinary bladder smooth muscle |
| BTO:0001850 | portio vaginalis cervicis |
| BTO:0001851 | portio supravaginalis cervicis |
| BTO:0001852 | cerebrovascular endothelium |
| BTO:0001853 | vascular endothelium |
| BTO:0001854 | vascular endothelial cell |
| BTO:0001855 | venom duct |
| BTO:0001856 | vestibular labyrinth |
| BTO:0001857 | visual cortex |
| BTO:0001858 | dermal papilla |
| BTO:0001859 | wart |
| BTO:0001860 | yolk sac cancer cell |
| BTO:0001861 | BxPC-3 cell |
| BTO:0001862 | nucleus accumbens |
| BTO:0001863 | body wall muscle |
| BTO:0001864 | AsPC-1 cell |
| BTO:0001865 | PK-15 cell |
| BTO:0001866 | bronchiolar epithelium |
| BTO:0001867 | NR-6 cell |
| BTO:0001868 | occipital pole |
| BTO:0001869 | olfactory tubercle |
| BTO:0001870 | OVCA-5 cell |
| BTO:0001871 | synganglion |
| BTO:0001872 | alphaTN4-1 cell |
| BTO:0001873 | lens epithelium |
| BTO:0001874 | lens epithelial cell line |
| BTO:0001875 | FRTL-5 cell |
| BTO:0001876 | thyroid cell line |
| BTO:0001877 | psoas major |
| BTO:0001878 | psoas minor |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0001879 | H9c2 cell |
| BTO:0001880 | RPMI-8402 cell |
| BTO:0001881 | SW-626 cell |
| BTO:0001882 | ovary adenocarcinoma cell line |
| BTO:0001883 | acute myeloid leukemia cell line |
| BTO:0001884 | ML-1 cell |
| BTO:0001885 | ML-2 cell |
| BTO:0001886 | primordium |
| BTO:0001887 | heart primordium |
| BTO:0001888 | follicular thyroid cancer cell |
| BTO:0001889 | FTC-133 cell |
| BTO:0001890 | RKO cell |
| BTO:0001891 | RKO-E6 cell |
| BTO:0001892 | RKO-AS-45-1 cell |
| BTO:0001893 | ring stage |
| BTO:0001894 | IIC9 cell |
| BTO:0001895 | gastrointestinal endocrine cell |
| BTO:0001896 | IDH4 cell |
| BTO:0001897 | hemocyte cell line |
| BTO:0001898 | mbn-2 cell |
| BTO:0001899 | stationary phase culture |
| BTO:0001900 | growth phase culture |
| BTO:0001901 | death phase culture |
| BTO:0001902 | lag phase culture |
| BTO:0001903 | logarithmic phase culture |
| BTO:0001904 | SU.86.86 cell |
| BTO:0001905 | tail muscle |
| BTO:0001906 | cephalothorax |
| BTO:0001907 | NS-1 cell |
| BTO:0001908 | MDA-MB-453 cell |
| BTO:0001909 | N1E-115 cell |
| BTO:0001910 | NCI-H441 cell |
| BTO:0001911 | lung adenocarcinoma cell line |
| BTO:0001912 | breast adenocarcinoma cell line |
| BTO:0001913 | colonic adenocarcinoma cell line |
| BTO:0001914 | colorectal adenocarcinoma cell line |
| BTO:0001915 | M5076 cell |
| BTO:0001916 | LIM1215 cell |
| BTO:0001917 | LIM2412 cell |
| BTO:0001918 | LIM1863 cell |
| BTO:0001919 | tube foot |
| BTO:0001920 | Ehrlich Lettre ascites carcinoma cell |
| BTO:0001921 | compound eye |
| BTO:0001922 | ommatidium |
| BTO:0001923 | Aristotles lantern |
| BTO:0001924 | lantern muscle |
| BTO:0001925 | longissimus lumborum |
| BTO:0001926 | hybridoma cell line |
| BTO:0001927 | WEGLI18 cell |
| BTO:0001928 | AR4-2J cell |
| BTO:0001929 | ATDC-5 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------|
| BTO:0001930 | A20 cell |
| BTO:0001931 | BJAB cell |
| BTO:0001932 | BT-474 cell |
| BTO:0001933 | BRL cell |
| BTO:0001934 | BL-60 cell |
| BTO:0001935 | BW-5147.3 cell |
| BTO:0001936 | SKW6.4 cell |
| BTO:0001937 | RL-19 cell |
| BTO:0001938 | U2-OS cell |
| BTO:0001939 | MCF-10A cell |
| BTO:0001940 | cardiomyoblast |
| BTO:0001941 | Morris hepatoma 7316A cell |
| BTO:0001942 | mandibular incisor |
| BTO:0001943 | corneocyte |
| BTO:0001944 | H9 cell |
| BTO:0001945 | HUT-78 cell |
| BTO:0001946 | myofibroblast |
| BTO:0001947 | HRT-18 cell |
| BTO:0001948 | JURKAT E-6.1 cell |
| BTO:0001949 | HUVEC cell |
| BTO:0001950 | HuH-7 cell |
| BTO:0001951 | HOS-TE85 cell |
| BTO:0001952 | HPB-ALL cell |
| BTO:0001953 | tanycyte |
| BTO:0001954 | median eminence |
| BTO:0001955 | REF-52 cell |
| BTO:0001956 | XLT-15 cell |
| BTO:0001957 | MC3T3-E1 cell |
| BTO:0001958 | embryonic fibroblast cell line |
| BTO:0001959 | PEER cell |
| BTO:0001960 | HuMMEC cell |
| BTO:0001961 | MFM-223 cell |
| BTO:0001962 | T/G HA-VSMC cell |
| BTO:0001963 | aorta cell line |
| BTO:0001964 | aorta smooth muscle cell line |
| BTO:0001965 | carcass |
| BTO:0001966 | cervical cell line |
| BTO:0001967 | cervical cancer cell line |
| BTO:0001968 | C-33A cell |
| BTO:0001969 | 697 cell |
| BTO:0001970 | NCI-H660 cell |
| BTO:0001971 | plant cell line |
| BTO:0001972 | TBY-2 cell |
| BTO:0001973 | vascular endothelial cell line |
| BTO:0001974 | HPEC cell |
| BTO:0001975 | placental cell line |
| BTO:0001976 | Neuro-2a cell |
| BTO:0001977 | Oc cell |
| BTO:0001978 | anal canal |
| BTO:0001979 | mucous gland |
| BTO:0001980 | sebaceous gland |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0001981 | sebum |
| BTO:0001982 | chemostat culture |
| BTO:0001983 | peptic chief cell |
| BTO:0001984 | culture condition:beta-L-alanine-grown cell |
| BTO:0001985 | culture condition:cytosine-grown cell |
| BTO:0001986 | culture condition:cyclohexan-1,2-diol grown cell |
| BTO:0001987 | culture condition:dihydrothymine-grown cell |
| BTO:0001988 | culture condition:dihydrouracil-grown cell |
| BTO:0001989 | culture condition:long-chain fatty acid-grown cell |
| BTO:0001990 | culture condition:oleate-grown cell |
| BTO:0001991 | culture condition:phthalate-grown cell |
| BTO:0001992 | culture condition:selenium-grown cell |
| BTO:0001993 | culture condition:thymine-grown cell |
| BTO:0001994 | culture condition:uracil-grown cell |
| BTO:0001995 | myocytoma cell |
| BTO:0001996 | endometrial cell line |
| BTO:0001997 | arteriole |
| BTO:0001998 | HMCB cell |
| BTO:0001999 | culture condition:gene expression |
| BTO:0002000 | CCP-2 cell |
| BTO:0002001 | CCP-8 cell |
| BTO:0002002 | CCP-7 cell |
| BTO:0002003 | SW-1353 cell |
| BTO:0002004 | LN-229 cell |
| BTO:0002005 | LN-18 cell |
| BTO:0002006 | ALVA-41 cell |
| BTO:0002007 | aggregation stage |
| BTO:0002008 | culture condition:antigen-presenting cell |
| BTO:0002009 | artery wall |
| BTO:0002010 | tunica externa vasorum |
| BTO:0002011 | tunica media vasorum |
| BTO:0002012 | tunica intima vasorum |
| BTO:0002013 | AS-30D cell |
| BTO:0002014 | B16-F10 cell |
| BTO:0002015 | BM-1604 cell |
| BTO:0002016 | C81-61 cell |
| BTO:0002017 | plant reproductive system |
| BTO:0002018 | corpus cavernosum clitoridis |
| BTO:0002019 | corpus cavernosum penis |
| BTO:0002020 | clitoris |
| BTO:0002021 | prostate adenocarcinoma cell |
| BTO:0002022 | bronchial epithelial cell line |
| BTO:0002023 | HBE-1 cell |
| BTO:0002024 | squamous cell carcinoma cell line |
| BTO:0002025 | HSC-3 cell |
| BTO:0002026 | HSC-4 cell |
| BTO:0002027 | oral cancer cell line |
| BTO:0002028 | J-96 cell |
| BTO:0002029 | myoma cell |
| BTO:0002030 | natural killer cell line |
| BTO:0002031 | RNK-16 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------|
| BTO:0002032 | T-84 cell |
| BTO:0002033 | EFO-27 cell |
| BTO:0002034 | SK-UT-1 cell |
| BTO:0002035 | U-251 MG cell |
| BTO:0002036 | U-87MG cell |
| BTO:0002037 | M-1 myeloid leukemia cell |
| BTO:0002038 | osteocyte |
| BTO:0002039 | KMST-6 cell |
| BTO:0002040 | KMST-6/T cell |
| BTO:0002041 | KMS-6 cell |
| BTO:0002042 | dendritic cell |
| BTO:0002043 | ECV-304 cell |
| BTO:0002044 | frond tip |
| BTO:0002045 | capillary |
| BTO:0002046 | spermatozoid |
| BTO:0002047 | Colo-320 cell |
| BTO:0002048 | slug stage |
| BTO:0002049 | Chang cell |
| BTO:0002050 | osteogenic cell |
| BTO:0002051 | preosteoblast |
| BTO:0002052 | osteogenic cell line |
| BTO:0002053 | seminal vesicle fluid |
| BTO:0002054 | Dunn cell |
| BTO:0002055 | XD-6 cell |
| BTO:0002056 | siphon |
| BTO:0002057 | lung adenocarcinoma cell |
| BTO:0002058 | non-small cell lung cancer cell |
| BTO:0002059 | large cell carcinoma cell |
| BTO:0002060 | bronchioalveolar carcinoma cell |
| BTO:0002061 | bronchogenic carcinoma cell |
| BTO:0002062 | B-lymphoblastoid cell line |
| BTO:0002063 | Colo-720L cell |
| BTO:0002064 | stromal cell |
| BTO:0002065 | venom apparatus |
| BTO:0002066 | venom sac |
| BTO:0002067 | stinger |
| BTO:0002068 | scent gland |
| BTO:0002069 | wax gland |
| BTO:0002070 | KS-IMM cell |
| BTO:0002071 | Kaposi's sarcoma cell |
| BTO:0002072 | squamous epithelium |
| BTO:0002073 | pavement epithelium |
| BTO:0002074 | stratified epithelium |
| BTO:0002075 | mesenchymal epithelium |
| BTO:0002076 | osteomalacia cell |
| BTO:0002077 | oncogenic osteomalacia cell |
| BTO:0002078 | hepatic osteomalacia cell |
| BTO:0002079 | puerperal osteomalacia cell |
| BTO:0002080 | renal tubular osteomalacia cell |
| BTO:0002081 | senile osteomalacia cell |
| BTO:0002082 | subdural space |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0002083 | perilymphatic space |
| BTO:0002084 | anterior chamber of the eye |
| BTO:0002085 | chamber of the eye |
| BTO:0002086 | posterior chamber of the eye |
| BTO:0002087 | vitreous chamber of the eye |
| BTO:0002088 | ependymoma cell |
| BTO:0002089 | CAL-72 cell |
| BTO:0002090 | endophytic retinoblastoma cell |
| BTO:0002091 | exophytic retinoblastoma cell |
| BTO:0002092 | ganglioglioma cell |
| BTO:0002093 | ganglioneuroma cell |
| BTO:0002094 | ganglioneurofibroma cell |
| BTO:0002095 | nasal glioma cell |
| BTO:0002096 | nasal cavity |
| BTO:0002097 | pharyngeal cavity |
| BTO:0002098 | tympanum |
| BTO:0002099 | middle ear |
| BTO:0002100 | outer ear |
| BTO:0002101 | multiple myeloma cell |
| BTO:0002102 | MOPC-104E cell |
| BTO:0002103 | MOPC-173 cell |
| BTO:0002104 | BE(2)-M17 cell |
| BTO:0002105 | perisynthetic organ |
| BTO:0002106 | neurohemal organ |
| BTO:0002107 | submucosa |
| BTO:0002108 | tela submucosa bronchiorum |
| BTO:0002109 | tela submucosa esophagi |
| BTO:0002110 | tela submucosa gastris |
| BTO:0002111 | tela submucosa intestini crassi |
| BTO:0002112 | tela submucosa intestini tenuis |
| BTO:0002113 | tela submucosa pharyngis |
| BTO:0002114 | tela submucosa recti |
| BTO:0002115 | tela submucosa tracheae |
| BTO:0002116 | tela submucosa tubae uteriniae |
| BTO:0002117 | tela submucosa vesicae urinariae |
| BTO:0002118 | culture condition:collagen-grown cell |
| BTO:0002119 | spikelet |
| BTO:0002120 | pyloric cecum |
| BTO:0002121 | pyloric stomach |
| BTO:0002122 | cardiac stomach |
| BTO:0002123 | primitive endoderm |
| BTO:0002124 | ampulla |
| BTO:0002125 | water vascular system |
| BTO:0002126 | U-373MG cell |
| BTO:0002127 | U-138MG cell |
| BTO:0002128 | TX3868 cell |
| BTO:0002129 | SK-MEL-1 cell |
| BTO:0002130 | SK-MEL cell |
| BTO:0002131 | SK-MEL-28 cell |
| BTO:0002132 | SK-MEL-3 cell |
| BTO:0002133 | SK-MEL-30 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0002134 | SK-MEL-5 cell |
| BTO:0002135 | INS-1 cell |
| BTO:0002136 | NB-4 cell |
| BTO:0002137 | MiaPaCa-2 cell |
| BTO:0002138 | MiaPaCa cell |
| BTO:0002139 | HS-683 cell |
| BTO:0002140 | RPMI-7931 cell |
| BTO:0002141 | BCS-TC2 cell |
| BTO:0002142 | BRIN-BD11 cell |
| BTO:0002143 | CEM-VCR R cell |
| BTO:0002144 | acute lymphoblastic leukemia cell line |
| BTO:0002145 | midgut cell line |
| BTO:0002146 | CAL-62 cell |
| BTO:0002147 | type II intestinal metaplasia specific cell type |
| BTO:0002148 | gas bladder |
| BTO:0002149 | gill raker |
| BTO:0002150 | gill filament |
| BTO:0002151 | gill raker sieve |
| BTO:0002152 | gill arch |
| BTO:0002153 | pharyngobranchial |
| BTO:0002154 | epibranchial |
| BTO:0002155 | ceratobranchial |
| BTO:0002156 | hypobranchial |
| BTO:0002157 | endochondral bone |
| BTO:0002158 | huelle cell |
| BTO:0002159 | cleistothecium |
| BTO:0002160 | apothecium |
| BTO:0002161 | ascocarp |
| BTO:0002162 | ascus |
| BTO:0002163 | gymnothecium |
| BTO:0002164 | perithecium |
| BTO:0002165 | basidium |
| BTO:0002166 | basidiospore |
| BTO:0002167 | mushroom |
| BTO:0002168 | juvenile |
| BTO:0002169 | anterior commissure |
| BTO:0002170 | LOX cell |
| BTO:0002171 | amelanotic melanoma cell line |
| BTO:0002172 | ABFTL-6 cell |
| BTO:0002173 | tubercle |
| BTO:0002174 | parenchymal cell |
| BTO:0002175 | LLC-RK1 cell |
| BTO:0002176 | Pro-5 cell |
| BTO:0002177 | PR cell |
| BTO:0002178 | HMEpC cell |
| BTO:0002179 | 184A1N4 cell |
| BTO:0002180 | 184B5 cell |
| BTO:0002181 | HEK-293T cell |
| BTO:0002182 | 95D cell |
| BTO:0002183 | 95C cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002184 | culture condition:2,4-dichlorophenoxyacetate-grown cell |
| BTO:0002185 | culture condition:2-aminobenzoate-grown cell |
| BTO:0002186 | culture condition:2-chloroacrylate-grown cell |
| BTO:0002187 | culture condition:3-nitrophenol grown-cell |
| BTO:0002188 | culture condition:alpha-pinene-grown cell |
| BTO:0002189 | culture condition:pullulan-grown cell |
| BTO:0002190 | culture condition:xylan-grown cell |
| BTO:0002191 | fibre tract |
| BTO:0002192 | SCC12b cell |
| BTO:0002193 | SCC-13 cell |
| BTO:0002194 | NHK cell |
| BTO:0002195 | vascular smooth muscle cell line |
| BTO:0002196 | A10 cell |
| BTO:0002197 | M22 cell |
| BTO:0002198 | OC/CDE22 cell |
| BTO:0002199 | Colo-206F cell |
| BTO:0002200 | Colo-678 cell |
| BTO:0002201 | HCT-15 cell |
| BTO:0002202 | lung squamous cell carcinoma cell line |
| BTO:0002203 | SK-MES-1 cell |
| BTO:0002204 | palatine uvula |
| BTO:0002205 | large cell lung cancer cell line |
| BTO:0002206 | small cell lung cancer cell line |
| BTO:0002207 | NCI-H460 cell |
| BTO:0002208 | K6H6/B5 cell |
| BTO:0002209 | NCI-H596 cell |
| BTO:0002210 | SiHa cell |
| BTO:0002211 | oral squamous cell carcinoma cell line |
| BTO:0002212 | cervical squamous cell carcinoma cell line |
| BTO:0002213 | A-1207 cell |
| BTO:0002214 | A-1235 cell |
| BTO:0002215 | LN-319 cell |
| BTO:0002216 | LN-428 cell |
| BTO:0002217 | culture supernatant |
| BTO:0002218 | chalazal cell |
| BTO:0002219 | adrenocortical carcinoma cell |
| BTO:0002220 | 15PC3 cell |
| BTO:0002221 | HLE-B3 cell |
| BTO:0002222 | bract |
| BTO:0002223 | BW/T200- cell |
| BTO:0002224 | cheek pouch |
| BTO:0002225 | digestive gland cell line |
| BTO:0002226 | abalone digestive gland cell line |
| BTO:0002227 | culture condition:citrate-grown cell |
| BTO:0002228 | culture condition:light-grown cell |
| BTO:0002229 | culture condition:heme-grown cell |
| BTO:0002230 | culture condition:naphthalene-grown cell |
| BTO:0002231 | culture condition:porcine gastric mucin-grown cell |
| BTO:0002232 | culture condition:taurine-grown cell |
| BTO:0002233 | culture fluid |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002234 | culture-condition:L-arginine-grown cell |
| BTO:0002235 | Calu-6 cell |
| BTO:0002236 | ovarian cumulus cell |
| BTO:0002237 | ectomycorrhiza |
| BTO:0002238 | endomycorrhiza |
| BTO:0002239 | endectomycorrhiza |
| BTO:0002240 | exodermis |
| BTO:0002241 | eyelid |
| BTO:0002242 | oral epithelial cell |
| BTO:0002243 | hypanthium |
| BTO:0002244 | flower stalk |
| BTO:0002245 | foreskin fibroblast cell line |
| BTO:0002246 | globus pallidus |
| BTO:0002247 | globus pallidus lateralis |
| BTO:0002248 | globus pallidus medialis |
| BTO:0002249 | cervical canal |
| BTO:0002250 | nucleus lentiformis |
| BTO:0002251 | lamina medullaris medialis corporis striati |
| BTO:0002252 | subthalamic nucleus |
| BTO:0002253 | GOTO cell |
| BTO:0002254 | vas efferens |
| BTO:0002255 | HCT-8 cell |
| BTO:0002256 | heterotroph |
| BTO:0002257 | heterotrophic cell |
| BTO:0002258 | autotroph |
| BTO:0002259 | autotrophic cell |
| BTO:0002260 | HS-68 cell |
| BTO:0002261 | fungus form |
| BTO:0002262 | plant pedicel |
| BTO:0002263 | ventriculus |
| BTO:0002264 | dried cell |
| BTO:0002265 | microplasmidium |
| BTO:0002266 | honey sac |
| BTO:0002267 | rhabdomyosarcoma cell line |
| BTO:0002268 | MLE-12 cell |
| BTO:0002269 | JEG-3 cell |
| BTO:0002270 | MCF-7/2a cell |
| BTO:0002271 | MCS-2 cell |
| BTO:0002272 | merozoite |
| BTO:0002273 | ileocecum |
| BTO:0002274 | BHT-101 cell |
| BTO:0002275 | lateral hypodermal chord |
| BTO:0002276 | immobilized cell |
| BTO:0002277 | melanotroph |
| BTO:0002278 | macrophage cell line |
| BTO:0002279 | J-774 cell |
| BTO:0002280 | lignifying cell |
| BTO:0002281 | YZI-1S cell |
| BTO:0002282 | Pt-K2 cell |
| BTO:0002283 | NCI-H157 cell |
| BTO:0002284 | MIN-6 cell |

Continued on next page

Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------------|
| BTO:0002285 | granulosa cell line |
| BTO:0002286 | POGS-5 cell |
| BTO:0002287 | POGRS-1 cell |
| BTO:0002288 | GLHR-15 cell |
| BTO:0002289 | GFSHR-17 cell |
| BTO:0002290 | primary cell line |
| BTO:0002291 | SP2/0-AG14 cell |
| BTO:0002292 | flagellum |
| BTO:0002293 | SAKRTLS 12.1 cell |
| BTO:0002294 | solid substrate culture |
| BTO:0002295 | podocyte |
| BTO:0002296 | capsular epithelium |
| BTO:0002297 | renal glomerular capsule |
| BTO:0002298 | inferior olfactory complex |
| BTO:0002299 | oliva |
| BTO:0002300 | hilum nuclei olivaris inferioris |
| BTO:0002301 | mucinous cystadenoma cell |
| BTO:0002302 | inferior mesenteric artery |
| BTO:0002303 | superior mesenteric artery |
| BTO:0002304 | protoscolex |
| BTO:0002305 | scolex |
| BTO:0002306 | ARO cell |
| BTO:0002307 | yeast form |
| BTO:0002308 | myoepithelium |
| BTO:0002309 | myoepithelial cell |
| BTO:0002310 | mammary myoepithelium |
| BTO:0002311 | mammary myoepithelial cell |
| BTO:0002312 | mature cell |
| BTO:0002313 | immature cell |
| BTO:0002314 | satellite cell |
| BTO:0002315 | supporting cell |
| BTO:0002316 | stellate cell |
| BTO:0002317 | slow muscle |
| BTO:0002318 | fast muscle |
| BTO:0002319 | skeletal muscle fiber |
| BTO:0002320 | cardiac muscle fiber |
| BTO:0002321 | intermediate muscle fiber |
| BTO:0002322 | cell property |
| BTO:0002323 | eccrine sweat gland |
| BTO:0002324 | merocrine gland |
| BTO:0002325 | holocrine gland |
| BTO:0002326 | breast apocrine carcinoma cell |
| BTO:0002327 | stem cortex |
| BTO:0002328 | ventral nerve cord |
| BTO:0002329 | dorsal nerve cord |
| BTO:0002330 | lamina propria |
| BTO:0002331 | PLHC-1 cell |
| BTO:0002332 | monocytic leukemia cell line |
| BTO:0002333 | Mono-Mac-6 cell |
| BTO:0002334 | retinal pigment epithelium cell line |
| BTO:0002335 | ARPE-19 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002336 | culture condition:arabitol-grown cell |
| BTO:0002337 | culture condition:cellobiose-grown cell |
| BTO:0002338 | culture condition:cellulose-grown cell |
| BTO:0002339 | culture condition:fluoride-grown cell |
| BTO:0002340 | plant collar |
| BTO:0002341 | leaf collar |
| BTO:0002342 | bradyzoite |
| BTO:0002343 | tarsal bone |
| BTO:0002344 | electrocyte |
| BTO:0002345 | hindlimb |
| BTO:0002346 | fibula |
| BTO:0002347 | metatarsal bone |
| BTO:0002348 | toe |
| BTO:0002349 | hallux |
| BTO:0002350 | digitus secundus pedis |
| BTO:0002351 | digitus tertius pedis |
| BTO:0002352 | digitus quartus pedis |
| BTO:0002353 | digitum minimus pedis |
| BTO:0002354 | talus |
| BTO:0002355 | calcaneal bone |
| BTO:0002356 | navicular bone |
| BTO:0002357 | cuboid bone |
| BTO:0002358 | lateral cuneiform bone |
| BTO:0002359 | intermediate cuneiform bone |
| BTO:0002360 | medial cuneiform bone |
| BTO:0002361 | osteochondroma cell |
| BTO:0002362 | pancreatic duct |
| BTO:0002363 | pancreatic ductal carcinoma cell |
| BTO:0002364 | gastric pit |
| BTO:0002365 | chondroblastoma cell |
| BTO:0002366 | extravillous trophoblast |
| BTO:0002367 | cytotrophoblastic cell |
| BTO:0002368 | 3Y1-B clone 1 cell |
| BTO:0002369 | HR-3Y1 cell |
| BTO:0002370 | colleterial gland |
| BTO:0002371 | macroplasmodium |
| BTO:0002372 | neuroepithelioma cell |
| BTO:0002373 | glioblastoma multiforme cell |
| BTO:0002374 | anaplastic astrocytoma cell |
| BTO:0002375 | bronchiole |
| BTO:0002376 | duodenal gland |
| BTO:0002377 | SR-3Y1 cell |
| BTO:0002378 | pilocytic astrocytoma cell |
| BTO:0002379 | juvenile pilocytic astrocytoma cell |
| BTO:0002380 | gastric adenocarcinoma cell line |
| BTO:0002381 | MKN-28 cell |
| BTO:0002382 | MKN-7 cell |
| BTO:0002383 | MKN-74 cell |
| BTO:0002384 | MKN-1 cell |
| BTO:0002385 | GLC-4 cell |
| BTO:0002386 | GLC-4/ADR cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0002387 | GLC-4/MITO cell |
| BTO:0002388 | GLC-4/CDDP cell |
| BTO:0002389 | U-1285 cell |
| BTO:0002390 | U-1568 cell |
| BTO:0002391 | U-1285dox cell |
| BTO:0002392 | SGC-7901 cell |
| BTO:0002393 | N-27 cell |
| BTO:0002394 | DC-3F cell |
| BTO:0002395 | DC-3F/ADX cell |
| BTO:0002396 | NIH-3T3-G185 cell |
| BTO:0002397 | prostate gland epithelium |
| BTO:0002398 | prostate epithelium cell line |
| BTO:0002399 | PNT-2 cell |
| BTO:0002400 | OLN-93 cell |
| BTO:0002401 | feather rachis |
| BTO:0002402 | oviduct epithelium |
| BTO:0002403 | OS-RC-2 cell |
| BTO:0002404 | YMB-1 cell |
| BTO:0002405 | EoL-1 cell |
| BTO:0002406 | eosinophilic leukemia cell line |
| BTO:0002407 | spermmary |
| BTO:0002408 | NRK-52E cell |
| BTO:0002409 | NRK-49F cell |
| BTO:0002410 | giant cell carcinoma cell |
| BTO:0002411 | giant cell carcinoma cell line |
| BTO:0002412 | PG cell |
| BTO:0002413 | PG-BE1 cell |
| BTO:0002414 | PG-CL3 cell |
| BTO:0002415 | PG-LH7 cell |
| BTO:0002416 | NCI-H929 cell |
| BTO:0002417 | helper T-lymphocyte |
| BTO:0002418 | NCI-H292 cell |
| BTO:0002419 | SK-BR-3 cell |
| BTO:0002420 | monocytic leukemia cell |
| BTO:0002421 | eosinophilic leukemia cell |
| BTO:0002422 | mesothelium |
| BTO:0002423 | mesothelioma cell |
| BTO:0002424 | mesothelioma cell line |
| BTO:0002425 | MSTO-211H cell |
| BTO:0002426 | CHOP cell |
| BTO:0002427 | KYSE-150 cell |
| BTO:0002428 | esophageal squamous cell carcinoma cell line |
| BTO:0002429 | HA22T/VGH cell |
| BTO:0002430 | Lec15.1 CHO cell |
| BTO:0002431 | HuO-3N1 cell |
| BTO:0002432 | prespore |
| BTO:0002433 | genital primordium |
| BTO:0002434 | dorsal raphe nucleus |
| BTO:0002435 | colorectal mucosa |
| BTO:0002436 | myenteric plexus |
| BTO:0002437 | enteric plexus |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0002438 | Dogiel's corpuscle |
| BTO:0002439 | genital mucosa |
| BTO:0002440 | CX-1 cell |
| BTO:0002441 | pericyte |
| BTO:0002442 | tetrad of microspores |
| BTO:0002443 | tetrad of pollen |
| BTO:0002444 | basal forebrain |
| BTO:0002445 | diagonal band |
| BTO:0002446 | medial septum |
| BTO:0002447 | substantia innominata |
| BTO:0002448 | basal telencephalon |
| BTO:0002449 | hypothalamic nucleus |
| BTO:0002450 | anterior hypothalamic nucleus |
| BTO:0002451 | dorsal hypothalamic nucleus |
| BTO:0002452 | thalamic nucleus |
| BTO:0002453 | medial dorsal nucleus of thalamus |
| BTO:0002454 | median nucleus of thalamus |
| BTO:0002455 | anterior paraventricular nucleus |
| BTO:0002456 | posterior paraventricular nucleus |
| BTO:0002457 | nucleus parataenialis |
| BTO:0002458 | rhomboid nucleus |
| BTO:0002459 | nucleus reunions |
| BTO:0002460 | paraventricular nucleus |
| BTO:0002461 | posterior hypothalamic nucleus |
| BTO:0002462 | posterior nuclear complex of thalamus |
| BTO:0002463 | ventral lateral complex of thalamus |
| BTO:0002464 | ventrobasal complex of thalamus |
| BTO:0002465 | nucleus ventralis posterolateralis thalamus |
| BTO:0002466 | nucleus ventralis posteromedialis thalamus |
| BTO:0002467 | ventral nucleus of thalamus |
| BTO:0002468 | ventral anterior nucleus of thalamus |
| BTO:0002469 | ventral intermediate nucleus of thalamus |
| BTO:0002470 | ventral medial complex of thalamus |
| BTO:0002471 | culture condition:anaerobically-grown cell |
| BTO:0002472 | ventromedial hypothalamic nucleus |
| BTO:0002473 | infundibular nucleus |
| BTO:0002474 | dorsomedial nucleus of intermediate hypothalamus |
| BTO:0002475 | endopeduncular nucleus |
| BTO:0002476 | paraventricular nucleus of hypothalamus |
| BTO:0002477 | cecal epithelium |
| BTO:0002478 | cervical epithelial cell |
| BTO:0002479 | posterior periventricular nucleus |
| BTO:0002480 | plume |
| BTO:0002481 | lateral tuberal nucleus |
| BTO:0002482 | gonadotrophic cell |
| BTO:0002483 | interventricular septum |
| BTO:0002484 | columnar cell |
| BTO:0002485 | atrial appendage |
| BTO:0002486 | lupulin gland |
| BTO:0002487 | metacyclic form |
| BTO:0002488 | uterine leiomyosarcoma cell line |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002489 | promyelocytic leukemia cell line |
| BTO:0002490 | culture condition:acetylacetone-grown cell |
| BTO:0002491 | culture condition:4-hydroxyphenylacetate-grown cell |
| BTO:0002492 | vestimentum |
| BTO:0002493 | CH12.LX cell |
| BTO:0002494 | mesangium |
| BTO:0002495 | cerebral gyrus |
| BTO:0002496 | dentate gyrus |
| BTO:0002497 | fasciolar gyrus |
| BTO:0002498 | arachnoid barrier layer |
| BTO:0002499 | companion cell |
| BTO:0002500 | arachnoid trabecula |
| BTO:0002501 | trabecula |
| BTO:0002502 | kinetoplastid |
| BTO:0002503 | protozoan form |
| BTO:0002504 | T-lymphoblastic leukemia cell line |
| BTO:0002505 | anaplastic large cell lymphoma cell |
| BTO:0002506 | enteric nervous system |
| BTO:0002507 | autonomic nervous system |
| BTO:0002508 | myenteron |
| BTO:0002509 | corticotropic cell |
| BTO:0002510 | myelomonocytic leukemia cell |
| BTO:0002511 | pinnule |
| BTO:0002512 | leaflet |
| BTO:0002513 | Ewing's sarcoma cell |
| BTO:0002514 | CN1.4 cell |
| BTO:0002515 | brain cortex cell line |
| BTO:0002516 | odontoclast |
| BTO:0002517 | follicular lymphoma cell line |
| BTO:0002518 | FL-18 cell |
| BTO:0002519 | FL-218 cell |
| BTO:0002520 | FL-318 cell |
| BTO:0002521 | diffuse large B-cell lymphoma cell |
| BTO:0002522 | HBL-1 cell |
| BTO:0002523 | HBL-2 cell |
| BTO:0002524 | HEK-293A cell |
| BTO:0002525 | cementum |
| BTO:0002526 | HBL-4 cell |
| BTO:0002527 | HBL-5 cell |
| BTO:0002528 | HBL-7 cell |
| BTO:0002529 | HBL-8 cell |
| BTO:0002530 | HBL-9 cell |
| BTO:0002531 | HBL-10 cell |
| BTO:0002532 | Kobayashi cell |
| BTO:0002533 | HBL-11 cell |
| BTO:0002534 | HBL-3 cell |
| BTO:0002535 | Morris hepatoma 7800C1 cell |
| BTO:0002536 | feather vane |
| BTO:0002537 | BNL CL.2 cell |
| BTO:0002538 | LLC-PK-1-GR101 cell |
| BTO:0002539 | culture condition:styrene-grown cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0002540 | culture condition:styrene oxide-grown cell |
| BTO:0002541 | culture condition:(R)-cysteate-grown cell |
| BTO:0002542 | femoral muscle |
| BTO:0002543 | alveolar wall |
| BTO:0002544 | MCF-12A cell |
| BTO:0002545 | MCF-12F cell |
| BTO:0002546 | KBM-5 cell |
| BTO:0002547 | KE-37 cell |
| BTO:0002548 | BT-549 cell |
| BTO:0002549 | A-2780 cell |
| BTO:0002550 | CH-1 cell |
| BTO:0002551 | ACH-2 cell |
| BTO:0002552 | NCI-H1299 cell |
| BTO:0002553 | non-small cell lung cancer cell line |
| BTO:0002554 | K-562adr cell |
| BTO:0002555 | HOSE cell |
| BTO:0002556 | HOSE-A cell |
| BTO:0002557 | HOSE-B cell |
| BTO:0002558 | INER-37 cell |
| BTO:0002559 | INER-51 cell |
| BTO:0002560 | OVCA-2 cell |
| BTO:0002561 | OVCA-4 cell |
| BTO:0002562 | A-1847 cell |
| BTO:0002563 | OVCA-420 cell |
| BTO:0002564 | OVCA-429 cell |
| BTO:0002565 | OVCA-432 cell |
| BTO:0002566 | OVCA-433 cell |
| BTO:0002567 | INER-51/PSC-1 cell |
| BTO:0002568 | Colo-201 cell |
| BTO:0002569 | Co-403 cell |
| BTO:0002570 | coronary artery smooth muscle cell line |
| BTO:0002571 | Caco-2/TC7 cell |
| BTO:0002572 | MEF cell |
| BTO:0002573 | TERA-2 cell |
| BTO:0002574 | NT2-N cell |
| BTO:0002575 | IGROV-1 cell |
| BTO:0002576 | UMR-106 cell |
| BTO:0002577 | UMR-108 cell |
| BTO:0002578 | feather barbs |
| BTO:0002579 | IEC-CF7 cell |
| BTO:0002580 | chronic myeloid leukemia cell line |
| BTO:0002581 | MEG-01 cell |
| BTO:0002582 | HFL-1 cell |
| BTO:0002583 | YMB-1-E cell |
| BTO:0002584 | WRL-68 cell |
| BTO:0002586 | G-401 cell |
| BTO:0002587 | NCI-H295 cell |
| BTO:0002588 | NCI-H295R cell |
| BTO:0002589 | H-7721 cell |
| BTO:0002590 | HEY cell |
| BTO:0002591 | HL-60/Vinc cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|----------------------------------|
| BTO:0002592 | DC-3F/S16 cell |
| BTO:0002593 | DC-3F/9-OH-E cell |
| BTO:0002594 | DDT1-MF-2 cell |
| BTO:0002595 | leiomyosarcoma cell line |
| BTO:0002596 | NUGC-2 cell |
| BTO:0002597 | NUGC-3 cell |
| BTO:0002598 | RBA cell |
| BTO:0002599 | RBA-2 cell |
| BTO:0002600 | astrocyte cell line |
| BTO:0002601 | RAW/LR5 cell |
| BTO:0002602 | RTH-149 cell |
| BTO:0002603 | 11-9-1-4 cell |
| BTO:0002604 | TC-71 cell |
| BTO:0002605 | TE-671 cell |
| BTO:0002606 | glial cell |
| BTO:0002607 | SK-LMS-1 cell |
| BTO:0002608 | vomeronasal organ |
| BTO:0002609 | astroglial cell |
| BTO:0002610 | pseudopodium |
| BTO:0002611 | axopodium |
| BTO:0002612 | filopodium |
| BTO:0002613 | lobopodium |
| BTO:0002614 | reticulopodium |
| BTO:0002615 | fascia dentata |
| BTO:0002616 | turion |
| BTO:0002617 | thyroid nodule |
| BTO:0002618 | ejaculatory duct epithelium |
| BTO:0002619 | posterior adductor muscle |
| BTO:0002620 | anterior adductor muscle |
| BTO:0002621 | spinal muscle |
| BTO:0002622 | spinal muscle of head |
| BTO:0002623 | spinal muscle of neck |
| BTO:0002624 | spinal muscle of thorax |
| BTO:0002625 | mesenchymal cell |
| BTO:0002626 | venule |
| BTO:0002627 | T-lymphoblastoma cell |
| BTO:0002628 | B-lymphoblastoma cell |
| BTO:0002629 | T-lymphoblastoid cell line |
| BTO:0002630 | UCI-101 cell |
| BTO:0002631 | glume |
| BTO:0002632 | larval cell line |
| BTO:0002633 | 4a-2s4 cell |
| BTO:0002634 | L3-5-3 cell |
| BTO:0002635 | Sua1.1 cell |
| BTO:0002636 | 1HAEo cell |
| BTO:0002637 | respiratory epithelium cell line |
| BTO:0002638 | Hs 925.T cell |
| BTO:0002639 | NS20Y cell |
| BTO:0002640 | CHO-EM9 cell |
| BTO:0002641 | CHO-AA8 cell |
| BTO:0002642 | A2780-DX3 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002643 | cortical collecting duct |
| BTO:0002644 | CCD-13Lu cell |
| BTO:0002645 | CCD-8Lu cell |
| BTO:0002646 | CCD-25Lu cell |
| BTO:0002647 | CCD-27Sk cell |
| BTO:0002648 | ROS-17/2.8 cell |
| BTO:0002649 | B35 cell |
| BTO:0002650 | entorhinal area |
| BTO:0002651 | piriform area |
| BTO:0002652 | hemangioendothelioma cell line |
| BTO:0002653 | N2aEGFP cell |
| BTO:0002654 | hippocampal mossy fiber |
| BTO:0002655 | postlarva |
| BTO:0002656 | sickle cell |
| BTO:0002657 | mpkCCDc14 cell |
| BTO:0002658 | collecting duct cell line |
| BTO:0002659 | embryonic brain cortex cell line |
| BTO:0002660 | inflorescence stalk |
| BTO:0002661 | auditory vesicle |
| BTO:0002662 | skeletal muscle cell line |
| BTO:0002663 | N2aSW cell |
| BTO:0002664 | HTAU cell |
| BTO:0002665 | B-50 cell |
| BTO:0002666 | adult stem cell |
| BTO:0002667 | cord blood stem cell |
| BTO:0002668 | bone marrow stromal stem cell |
| BTO:0002669 | peripheral blood stem cell |
| BTO:0002670 | medial geniculate nucleus |
| BTO:0002671 | ventral principal nucleus of medial geniculate body |
| BTO:0002672 | medial nucleus of medial geniculate body |
| BTO:0002673 | dorsal nucleus of medial geniculate body |
| BTO:0002674 | medial geniculate body |
| BTO:0002675 | mushroom body |
| BTO:0002676 | vertical lobe of mushroom body |
| BTO:0002677 | medial lobe of mushroom body |
| BTO:0002678 | testicular vein |
| BTO:0002679 | right testicular vein |
| BTO:0002680 | left testicular vein |
| BTO:0002681 | renal vein |
| BTO:0002682 | inferior vena cava |
| BTO:0002683 | superior vena cava |
| BTO:0002684 | lymphoid follicle |
| BTO:0002685 | EOMA cell |
| BTO:0002686 | central amygdaloid nucleus |
| BTO:0002687 | Leydig cell tumor cell |
| BTO:0002688 | vascular cell |
| BTO:0002689 | oviductal fluid |
| BTO:0002690 | biofilm |
| BTO:0002691 | neuroendocrine cell |
| BTO:0002692 | enterochromaffin-like cell |
| BTO:0002693 | culture condition:toluene-grown cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002694 | leiomyoma cell |
| BTO:0002695 | uterine leiomyoma cell |
| BTO:0002696 | SK-N-BE(2) cell |
| BTO:0002697 | supraoptic nucleus |
| BTO:0002698 | bed nucleus of stria terminalis |
| BTO:0002699 | lateral habenular nucleus |
| BTO:0002700 | habenular trigone |
| BTO:0002701 | midbrain central gray |
| BTO:0002702 | medial amygdaloid nucleus |
| BTO:0002703 | cortical amygdaloid nucleus |
| BTO:0002704 | lateral amygdaloid nucleus |
| BTO:0002705 | septal area |
| BTO:0002706 | ventral septal area |
| BTO:0002707 | culture condition:ornithine-grown cell |
| BTO:0002708 | GT1-7 cell |
| BTO:0002709 | head and neck squamous cell carcinoma cell line |
| BTO:0002710 | UM-SCC-14B cell |
| BTO:0002711 | UM-SCC-17B cell |
| BTO:0002712 | UM-SCC-22B cell |
| BTO:0002713 | UM-SCC-21A cell |
| BTO:0002714 | UM-SCC-22A cell |
| BTO:0002715 | UM-SCC-38 cell |
| BTO:0002716 | MDA-1186 cell |
| BTO:0002717 | MDA-886 cell |
| BTO:0002718 | TR-146 cell |
| BTO:0002719 | primary effusion lymphoma cell line |
| BTO:0002720 | BC-1 cell |
| BTO:0002721 | BC-2 cell |
| BTO:0002722 | BC-3 cell |
| BTO:0002723 | HBL-6 cell |
| BTO:0002724 | CRO-AP/2 cell |
| BTO:0002725 | CRO-AP/3 cell |
| BTO:0002726 | CRO-AP/5 cell |
| BTO:0002727 | BCBL-1 cell |
| BTO:0002728 | BCP-1 cell |
| BTO:0002729 | ovarian serous carcinoma cell |
| BTO:0002730 | uterine serous carcinoma cell |
| BTO:0002731 | erythroid cell |
| BTO:0002732 | HEK-293CymR cell |
| BTO:0002733 | embryonic kidney cell line |
| BTO:0002734 | 16-HBE14o cell |
| BTO:0002735 | MKT-BR cell |
| BTO:0002736 | OCM-1cell |
| BTO:0002737 | SP-6.5 cell |
| BTO:0002738 | cement gland |
| BTO:0002739 | VACO cell |
| BTO:0002740 | INR1G9 cell |
| BTO:0002741 | hepatic stellate cell |
| BTO:0002742 | gynecophoral canal |
| BTO:0002743 | schistosomulum |
| BTO:0002744 | CAPAN-1 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002745 | CAPAN-2 cell |
| BTO:0002746 | PC-1.0 cell |
| BTO:0002747 | PC-1 cell |
| BTO:0002748 | BL-2 cell |
| BTO:0002749 | HS-74 cell |
| BTO:0002750 | Calu-3 cell |
| BTO:0002751 | PC6-3 cell |
| BTO:0002752 | PC-6 cell |
| BTO:0002753 | PC6-1 cell |
| BTO:0002754 | PC6-2 cell |
| BTO:0002755 | PC6-16 cell |
| BTO:0002756 | PC6-4 cell |
| BTO:0002757 | PC6-5 cell |
| BTO:0002758 | PC6-6 cell |
| BTO:0002759 | PC6-7 cell |
| BTO:0002760 | PC6-8 cell |
| BTO:0002761 | PC6-9 cell |
| BTO:0002762 | PC6-10 cell |
| BTO:0002763 | PC6-11 cell |
| BTO:0002764 | PC6-13 cell |
| BTO:0002765 | PC6-14 cell |
| BTO:0002766 | PC6-15 cell |
| BTO:0002767 | GH4-C1 cell |
| BTO:0002768 | mammary epithelial cell line |
| BTO:0002769 | HME cell |
| BTO:0002770 | decidual cell |
| BTO:0002771 | olfactory ensheathing cell |
| BTO:0002772 | chela |
| BTO:0002773 | salivary gland cancer cell |
| BTO:0002774 | amyloid plaque |
| BTO:0002775 | ANA-1 cell |
| BTO:0002776 | inflorescence apex |
| BTO:0002777 | anterolateral sulcus of medulla oblongata |
| BTO:0002778 | rostral ventrolateral medulla |
| BTO:0002779 | endospore |
| BTO:0002780 | visceral muscle |
| BTO:0002781 | mesenteric vein |
| BTO:0002782 | inferior mesenteric vein |
| BTO:0002783 | superior mesenteric vein |
| BTO:0002784 | corpus albicans |
| BTO:0002785 | rhinencephalon |
| BTO:0002786 | cystadenoma cell |
| BTO:0002787 | clear cell adenocarcinoma cell |
| BTO:0002788 | mucinous adenocarcinoma cell |
| BTO:0002789 | ovarian low malignant potential tumor cell |
| BTO:0002790 | phloem parenchyma cell |
| BTO:0002791 | culture condition:arginine-grown cell |
| BTO:0002792 | culture condition:citrulline-grown cell |
| BTO:0002793 | culture condition:glucose/ammonium-grown cell |
| BTO:0002794 | culture condition:glucose/arginine-grown cell |
| BTO:0002795 | culture condition:glucose-grown cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002796 | culture condition:glutamate-grown cell |
| BTO:0002797 | culture condition:N-3-oxododecanoyl-L-homoserine lactone/ammonium chloride-grown cell |
| BTO:0002798 | culture condition:N-decanoyl-L-homoserine lactone-grown cell |
| BTO:0002799 | culture condition:raffinose-grown cell |
| BTO:0002800 | culture condition:succinate/ammonium-grown cell |
| BTO:0002801 | culture condition:tributyryin-grown cell |
| BTO:0002802 | 1F6 cell |
| BTO:0002803 | BLM cell |
| BTO:0002804 | Mel57 cell |
| BTO:0002805 | M14 cell |
| BTO:0002806 | A-375 cell |
| BTO:0002807 | prefrontal cortex |
| BTO:0002808 | B16-BL6 cell |
| BTO:0002809 | L-6 myoblast cell |
| BTO:0002810 | L8 cell |
| BTO:0002811 | flag leaf |
| BTO:0002812 | final leaf |
| BTO:0002813 | gubernaculum testis |
| BTO:0002814 | chorda gubernaculum |
| BTO:0002815 | transitional cell carcinoma cell |
| BTO:0002816 | bladder transitional cell carcinoma cell |
| BTO:0002817 | esophageal cancer cell line |
| BTO:0002818 | HCE-7 cell |
| BTO:0002819 | decidua basalis |
| BTO:0002820 | oligodendrogloma cell line |
| BTO:0002821 | HOG cell |
| BTO:0002822 | NCI-HUT 125 cell |
| BTO:0002823 | SK-PC-1 cell |
| BTO:0002824 | SF-188 cell |
| BTO:0002825 | SW-742 cell |
| BTO:0002826 | SVEC4-10 cell |
| BTO:0002827 | SK-N-AS cell |
| BTO:0002828 | HMEC-1 cell |
| BTO:0002829 | KARPAS-299 cell |
| BTO:0002830 | DB-1 cell |
| BTO:0002831 | PC-346C cell |
| BTO:0002832 | PEA-13 cell |
| BTO:0002833 | NB-1643 cell |
| BTO:0002834 | NB-1691 cell |
| BTO:0002835 | NCI-H358 cell |
| BTO:0002836 | NCI-H460M cell |
| BTO:0002837 | PY-41 cell |
| BTO:0002838 | HT-29/219 cell |
| BTO:0002839 | P12-ICHIKAWA cell |
| BTO:0002840 | bile ductule |
| BTO:0002841 | bile canaliculus |
| BTO:0002842 | cholangioma cell |
| BTO:0002843 | breast fibroadenoma cell |
| BTO:0002844 | breast invasive ductal carcinoma cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0002845 | mammary duct |
| BTO:0002846 | non-Hodgkin lymphoma cell |
| BTO:0002847 | thecoma cell |
| BTO:0002848 | granulosa-theca cell tumor cell |
| BTO:0002849 | luteoma cell |
| BTO:0002850 | theca cell |
| BTO:0002851 | theca interna |
| BTO:0002852 | theca externa |
| BTO:0002853 | theca folliculi |
| BTO:0002854 | corn silk |
| BTO:0002855 | hepatic cecum |
| BTO:0002856 | coelomocyte |
| BTO:0002857 | eleocyte |
| BTO:0002858 | cerebral subcortex |
| BTO:0002859 | esophageal mucosa |
| BTO:0002860 | oral mucosa |
| BTO:0002861 | esophageal squamous cell carcinoma cell |
| BTO:0002862 | HBEpC cell |
| BTO:0002863 | MSS-31 cell |
| BTO:0002864 | T3M4 cell |
| BTO:0002865 | GER cell |
| BTO:0002866 | TE-2 cell |
| BTO:0002867 | TE-6 cell |
| BTO:0002868 | bladder transitional cell carcinoma cell line |
| BTO:0002869 | transitional cell carcinoma cell line |
| BTO:0002870 | RT-4 cell |
| BTO:0002871 | embryonic brain cell line |
| BTO:0002872 | embryonic hippocampal cell line |
| BTO:0002873 | HN9.10e cell |
| BTO:0002874 | Rat-2 cell |
| BTO:0002875 | CL1-0 cell |
| BTO:0002876 | CL1-5 cell |
| BTO:0002877 | PC-14 cell |
| BTO:0002878 | B-lymphoblastoid cell |
| BTO:0002879 | chorionic plate |
| BTO:0002880 | ingluvial ganglion |
| BTO:0002881 | neural stem cell |
| BTO:0002882 | 32D cell |
| BTO:0002883 | 32D clone3 cell |
| BTO:0002884 | 416B cell |
| BTO:0002885 | 745-A cell |
| BTO:0002886 | renal epithelium cell line |
| BTO:0002887 | A-9 cell |
| BTO:0002888 | Th-1 cell line |
| BTO:0002889 | alveolar macrophage cell line |
| BTO:0002890 | CA-77 cell |
| BTO:0002891 | neural stem cell line |
| BTO:0002892 | GEO cell |
| BTO:0002893 | HB1.F3 cell |
| BTO:0002894 | Hepa-1c1c7 cell |
| BTO:0002895 | HEPA 1-6 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0002896 | HM-1 ES cell |
| BTO:0002897 | IM-9 cell |
| BTO:0002898 | J558L cell |
| BTO:0002899 | K-1034 RPE cell |
| BTO:0002900 | monocyte-derived dendritic cell |
| BTO:0002901 | neural crest cell line |
| BTO:0002902 | NC14.9.1 cell |
| BTO:0002903 | NC14.4.6E cell |
| BTO:0002904 | non-Hodgkin lymphoma cell line |
| BTO:0002905 | NHL-B cell |
| BTO:0002906 | NPLC/PRF/5 cell |
| BTO:0002907 | NR-8383 cell |
| BTO:0002908 | PLB-985 cell |
| BTO:0002909 | RK-13 cell |
| BTO:0002910 | S194/5.XXO-1 cell |
| BTO:0002911 | S194/5.XXO.BU.1 cell |
| BTO:0002912 | neuroepithelioma cell line |
| BTO:0002913 | epithelioma cell line |
| BTO:0002914 | SK-N-MC cell |
| BTO:0002915 | rhabdomyocyte |
| BTO:0002916 | striated muscle cell |
| BTO:0002917 | rhabdomyocyte cell line |
| BTO:0002918 | HMV-II cell |
| BTO:0002919 | retinoblastoma cell line |
| BTO:0002920 | Y-79 cell |
| BTO:0002921 | LS174T-HM7 cell |
| BTO:0002922 | bronchial epithelial cell |
| BTO:0002923 | BEAS-2B cell |
| BTO:0002924 | NHBE cell |
| BTO:0002925 | tracheobronchial epithelium |
| BTO:0002926 | tracheobronchial epithelial cell line |
| BTO:0002927 | tracheobronchial epithelial cell |
| BTO:0002928 | adult stem cell line |
| BTO:0002929 | adult liver stem cell line |
| BTO:0002930 | fascia |
| BTO:0002931 | liver epithelial cell line |
| BTO:0002932 | cholangiocarcinoma cell line |
| BTO:0002933 | CCLP1 cell |
| BTO:0002934 | thymic cortex |
| BTO:0002935 | SG231 cell |
| BTO:0002936 | vaginal cell line |
| BTO:0002937 | S-16 cell |
| BTO:0002938 | 33B cell |
| BTO:0002939 | serous adenocarcinoma cell |
| BTO:0002940 | Calu-1 cell |
| BTO:0002941 | Colo-38 cell |
| BTO:0002942 | HO-1 cell |
| BTO:0002943 | FO-1 cell |
| BTO:0002944 | DU-2 cell |
| BTO:0002945 | MRN-1 cell |
| BTO:0002946 | MNT-1 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0002947 | 1102 cell |
| BTO:0002948 | 1383 cell |
| BTO:0002949 | 938 cell |
| BTO:0002950 | Mel888 cell |
| BTO:0002951 | 624 cell |
| BTO:0002952 | Mel249 cell |
| BTO:0002953 | Mel499 cell |
| BTO:0002954 | Mel505 cell |
| BTO:0002955 | Mel592 cell |
| BTO:0002956 | Mel501 cell |
| BTO:0002957 | DM6 cell |
| BTO:0002958 | DM93 cell |
| BTO:0002959 | TP17 cell |
| BTO:0002960 | HEC-1-A cell |
| BTO:0002961 | STP-1 cell |
| BTO:0002962 | 1290-2 cell |
| BTO:0002963 | 1704 cell |
| BTO:0002964 | 1182 cell |
| BTO:0002965 | M10 cell |
| BTO:0002966 | SK-MEL-21 cell |
| BTO:0002967 | SK-MEL-37 cell |
| BTO:0002968 | SK-MEL-93 cell |
| BTO:0002969 | IR-8 cell |
| BTO:0002970 | H494 cell |
| BTO:0002971 | KJ29 cell |
| BTO:0002972 | 164T2 cell |
| BTO:0002973 | 267T2 cell |
| BTO:0002974 | HEK-293-EBNA cell |
| BTO:0002975 | A-2058 cell |
| BTO:0002976 | abdominal aorta |
| BTO:0002977 | exocrine glandular secretion |
| BTO:0002978 | internal secretion |
| BTO:0002979 | secretion |
| BTO:0002980 | pancreatic alpha cell line |
| BTO:0002981 | alpha-TC1.9 cell |
| BTO:0002982 | alpha-TC1.6 cell |
| BTO:0002983 | anaplastic oligodendrogloma cell |
| BTO:0002984 | antropyloric mucosa |
| BTO:0002985 | coronary artery smooth muscle |
| BTO:0002986 | culture condition:molybdate-grown cell |
| BTO:0002987 | culture condition:tungstate-grown cell |
| BTO:0002988 | CHO-7 cell |
| BTO:0002989 | CHP-134 cell |
| BTO:0002990 | gastric ulcer |
| BTO:0002991 | glandular epithelium |
| BTO:0002992 | ARH-77 cell |
| BTO:0002993 | beta-TC3 cell |
| BTO:0002994 | lacteal cyst |
| BTO:0002995 | CCL-39 cell |
| BTO:0002996 | cavernous artery |
| BTO:0002997 | LAPC4 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|----------------------------------|
| BTO:0002998 | LNCaP-C42B4 cell |
| BTO:0002999 | 22Rv1 cell |
| BTO:0003000 | EB-1 cell |
| BTO:0003001 | EBC-1 cell |
| BTO:0003002 | endocervix |
| BTO:0003003 | epididymal fluid |
| BTO:0003004 | NCI-H1435 cell |
| BTO:0003005 | NCI-H324 cell |
| BTO:0003006 | NCI-H2122 cell |
| BTO:0003007 | NCI-H322 cell |
| BTO:0003008 | NCI-H226 cell |
| BTO:0003009 | NCI-H1703 cell |
| BTO:0003010 | NCI-H125 cell |
| BTO:0003011 | NCI-H1334 cell |
| BTO:0003012 | NCI-H1264 cell |
| BTO:0003013 | NCI-H661 cell |
| BTO:0003014 | NCI-H520 cell |
| BTO:0003015 | macula lutea |
| BTO:0003016 | SW-1573 cell |
| BTO:0003017 | COLO-699 cell |
| BTO:0003018 | NE-18 cell |
| BTO:0003019 | NCI-H345 cell |
| BTO:0003020 | NCI-H209 cell |
| BTO:0003021 | NCI-H187 cell |
| BTO:0003022 | NCI-H69 cell |
| BTO:0003023 | NCI-H510 cell |
| BTO:0003024 | NCI-H146 cell |
| BTO:0003025 | NCI-H128 cell |
| BTO:0003026 | NCI-H82 cell |
| BTO:0003027 | NCI-H196 cell |
| BTO:0003028 | NCI-N417 cell |
| BTO:0003029 | SKLU-1 cell |
| BTO:0003030 | MT-4 cell |
| BTO:0003031 | HCA-7 cell |
| BTO:0003032 | HEK-293F cell |
| BTO:0003033 | HEK-293H cell |
| BTO:0003034 | HELF cell |
| BTO:0003035 | HS-Sultan cell |
| BTO:0003036 | hippocampal cell line |
| BTO:0003037 | HT-22 cell |
| BTO:0003038 | HEC-1-B cell |
| BTO:0003039 | hypodermal seam cell |
| BTO:0003040 | uterine adenocarcinoma cell line |
| BTO:0003041 | Ishikawa cell |
| BTO:0003042 | J-774.1 cell |
| BTO:0003043 | JJ012-TS4 cell |
| BTO:0003044 | JY cell |
| BTO:0003045 | neuroma cell |
| BTO:0003046 | neurofibroma cell |
| BTO:0003047 | neurilemoma cell |
| BTO:0003048 | neurolemma |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0003049 | kerathoacanthoma cell |
| BTO:0003050 | MA-10 cell |
| BTO:0003051 | MBA-15 cell |
| BTO:0003052 | MDA-686Ln cell |
| BTO:0003053 | NCI-N87 cell |
| BTO:0003054 | OVCA-8 cell |
| BTO:0003055 | NW-16 cell |
| BTO:0003056 | NB-2 cell |
| BTO:0003057 | NB2-Sp cell |
| BTO:0003058 | NB2a/d1 cell |
| BTO:0003059 | oviduct epithelial cell line |
| BTO:0003060 | PC12-AC cell |
| BTO:0003061 | retinal cell line |
| BTO:0003062 | MIO-M1 cell |
| BTO:0003063 | Mueller cell line |
| BTO:0003064 | Mueller cell |
| BTO:0003065 | VA13-TS4 cell |
| BTO:0003066 | WI38-VA13 subline 2RA cell |
| BTO:0003067 | OE-E6/E7 cell |
| BTO:0003068 | PNT-1A cell |
| BTO:0003069 | OK cell |
| BTO:0003070 | S2 cell |
| BTO:0003071 | HLEC-SRA 01/04 cell |
| BTO:0003072 | human lens epithelial cell line |
| BTO:0003073 | medullary thyroid carcinoma cell line |
| BTO:0003074 | TT cell |
| BTO:0003075 | WM-115 cell |
| BTO:0003076 | RAMOS cell |
| BTO:0003077 | RAMOS-AW cell |
| BTO:0003078 | RAMOS-EHRB cell |
| BTO:0003079 | RAMOS (RA.1) cell |
| BTO:0003080 | pleural fluid |
| BTO:0003081 | pancreatic ductal adenocarcinoma cell |
| BTO:0003082 | uterine epithelium |
| BTO:0003083 | uterine wall |
| BTO:0003084 | vaginal fluid |
| BTO:0003085 | uterine anchor cell |
| BTO:0003086 | rosette leaf |
| BTO:0003087 | subiculum |
| BTO:0003088 | subiculum promontorii |
| BTO:0003089 | promontorium tympani |
| BTO:0003090 | subventricular zone |
| BTO:0003091 | urogenital system |
| BTO:0003092 | urinary system |
| BTO:0003093 | cardiofibroblast |
| BTO:0003094 | secondary oocyte |
| BTO:0003095 | normoblast |
| BTO:0003096 | internal male genital organ |
| BTO:0003097 | external male genital organ |
| BTO:0003098 | scrotum |
| BTO:0003099 | internal female genital organ |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0003100 | external female genital organ |
| BTO:0003101 | female pudendum |
| BTO:0003102 | pyramidal neuron |
| BTO:0003103 | pro-B-lymphocyte cell line |
| BTO:0003104 | pro-B-lymphocyte |
| BTO:0003105 | SW-1222 cell |
| BTO:0003106 | HOM-2 cell |
| BTO:0003107 | foreign-body giant cell |
| BTO:0003108 | CL-1 prostate cancer cell |
| BTO:0003109 | CaSki cell |
| BTO:0003110 | CALO cell |
| BTO:0003111 | VIPA cell |
| BTO:0003112 | INBL cell |
| BTO:0003113 | ROVA cell |
| BTO:0003114 | wound fluid |
| BTO:0003115 | major vestibular gland |
| BTO:0003116 | minor vestibular gland |
| BTO:0003117 | glans clitoridis |
| BTO:0003118 | glans penis |
| BTO:0003119 | clitoral gland |
| BTO:0003120 | atherosclerotic plaque |
| BTO:0003121 | villus |
| BTO:0003122 | microvascular endothelium |
| BTO:0003123 | microvascular endothelial cell |
| BTO:0003124 | microvascular endothelial cell line |
| BTO:0003125 | human bladder microvascular endothelial cell |
| BTO:0003126 | bone marrow endothelial cell line |
| BTO:0003127 | human bone marrow endothelial cell line |
| BTO:0003128 | brain microvascular endothelial cell line |
| BTO:0003129 | human brain microvascular endothelial cell |
| BTO:0003130 | FL cell |
| BTO:0003131 | CaR-1 cell |
| BTO:0003132 | microsporidian |
| BTO:0003133 | culture condition:acetylene-grown cell |
| BTO:0003134 | culture condition:quinate-grown cell |
| BTO:0003135 | zona pellucida |
| BTO:0003136 | ZR-75-1 cell |
| BTO:0003137 | 5637 cell |
| BTO:0003138 | UM-SCC-1 cell |
| BTO:0003139 | UM-SCC-12 cell |
| BTO:0003140 | UM-SCC-14A cell |
| BTO:0003141 | true leaf |
| BTO:0003142 | KU-812F cell |
| BTO:0003143 | coculture |
| BTO:0003144 | neuron-oligodendrocyte coculture |
| BTO:0003145 | vestibulum vaginae |
| BTO:0003146 | zona incerta |
| BTO:0003147 | juvenile leaf |
| BTO:0003148 | culture condition:milk-grown cell |
| BTO:0003149 | interalveolar septum |
| BTO:0003150 | pulmonary artery endothelial cell line |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-------------------------------|
| BTO:0003151 | HPAEC cell |
| BTO:0003152 | papillary thyroid cancer cell |
| BTO:0003153 | perineurium |
| BTO:0003154 | epineurium |
| BTO:0003155 | pleural mesothelium |
| BTO:0003156 | peritoneal mesothelium |
| BTO:0003157 | pericardial mesothelium |
| BTO:0003158 | prostate gland anterior lobe |
| BTO:0003159 | prostate gland smooth muscle |
| BTO:0003160 | PrEC cell |
| BTO:0003161 | PrSMC cell |
| BTO:0003162 | PrSC cell |
| BTO:0003163 | prostatic urethra |
| BTO:0003164 | cholangiocyte |
| BTO:0003165 | cervical adenocarcinoma cell |
| BTO:0003166 | 10T1/2 cell |
| BTO:0003167 | 143B cell |
| BTO:0003168 | cysticercus |
| BTO:0003169 | SNU-368 cell |
| BTO:0003170 | SNU-398 cell |
| BTO:0003171 | CCD-841-CoN cell |
| BTO:0003172 | KM-12 cell |
| BTO:0003173 | endostyle |
| BTO:0003174 | outer plexiform layer |
| BTO:0003175 | inner plexiform layer |
| BTO:0003176 | inner nuclear layer |
| BTO:0003177 | semimembranosus |
| BTO:0003178 | biceps |
| BTO:0003179 | hamstring muscle |
| BTO:0003180 | HeLa-80 cell |
| BTO:0003181 | WEHI-7.2 cell |
| BTO:0003182 | NHEK cell |
| BTO:0003183 | melanocyte cell line |
| BTO:0003184 | NHEM cell |
| BTO:0003185 | NHDF cell |
| BTO:0003186 | NHM cell |
| BTO:0003187 | SNU-423 cell |
| BTO:0003188 | SNU-449 cell |
| BTO:0003189 | SNU-475 cell |
| BTO:0003190 | SNU-354 cell |
| BTO:0003191 | SNU-387 cell |
| BTO:0003192 | renal cancer cell line |
| BTO:0003193 | SK-RC-1 cell |
| BTO:0003194 | SK-RC-6 cell |
| BTO:0003195 | SK-RC-7 cell |
| BTO:0003196 | SK-RC-17 cell |
| BTO:0003197 | SK-RC-29 cell |
| BTO:0003198 | SK-RC-35 cell |
| BTO:0003199 | SK-RC-39 cell |
| BTO:0003200 | SK-RC-44 cell |
| BTO:0003201 | SK-RC-45 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-------------------------------------|
| BTO:0003202 | SK-RC-99 cell |
| BTO:0003203 | Moroff cell |
| BTO:0003204 | Caki-1 cell |
| BTO:0003205 | salivary gland cell line |
| BTO:0003206 | A-253 cell |
| BTO:0003207 | A2780/100 cell |
| BTO:0003208 | anaplastic thyroid cancer cell |
| BTO:0003209 | anaplastic thyroid cancer cell line |
| BTO:0003210 | papillary thyroid cancer cell line |
| BTO:0003211 | S49.A2 cell |
| BTO:0003212 | T-lymphoma cell line |
| BTO:0003213 | lung epithelium cell line |
| BTO:0003214 | HPL1D cell |
| BTO:0003215 | VCaP cell |
| BTO:0003216 | melan-a cell |
| BTO:0003217 | melanoblast |
| BTO:0003218 | U-343 MG-A cell |
| BTO:0003219 | TMK-1 cell |
| BTO:0003220 | SK32 cell |
| BTO:0003221 | corneal cell line |
| BTO:0003222 | respiratory bronchiole |
| BTO:0003223 | terminal bronchiole |
| BTO:0003224 | TRK-43 cell |
| BTO:0003225 | neurilemoma cell line |
| BTO:0003226 | STS-26T cell |
| BTO:0003227 | SMMC-7721 cell |
| BTO:0003228 | SK-LC-8 cell |
| BTO:0003229 | SK-LC-16 cell |
| BTO:0003230 | RL cell |
| BTO:0003231 | SHG-44 cell |
| BTO:0003232 | BT-325 cell |
| BTO:0003233 | FaDu cell |
| BTO:0003234 | FTO-2B cell |
| BTO:0003235 | gall bladder cell line |
| BTO:0003236 | gall bladder cancer cell line |
| BTO:0003237 | gall bladder cancer cell |
| BTO:0003238 | NCI-H23 cell |
| BTO:0003239 | NCI-H838 cell |
| BTO:0003240 | NCI-H2126 cell |
| BTO:0003241 | NCI-H2087 cell |
| BTO:0003242 | NCI-H2009 cell |
| BTO:0003243 | NCI-H1684 cell |
| BTO:0003244 | NCI-H1437 cell |
| BTO:0003245 | aortic endothelial cell |
| BTO:0003246 | aortic endothelial cell line |
| BTO:0003247 | BAEC cell |
| BTO:0003248 | brain endothelium |
| BTO:0003249 | brain endothelium cell line |
| BTO:0003250 | colonic epithelium cell line |
| BTO:0003251 | CCD-841 cell |
| BTO:0003252 | uterine leiomyoma cell line |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------------|
| BTO:0003253 | ELT-3 cell |
| BTO:0003254 | DPK-SKDF-H cell |
| BTO:0003255 | AX-4 cell |
| BTO:0003256 | corpus amylaceum |
| BTO:0003257 | granulation tissue |
| BTO:0003258 | Col-1 cell |
| BTO:0003259 | Col-24 cell |
| BTO:0003260 | Col-6 cell |
| BTO:0003261 | HCN-1A cell |
| BTO:0003262 | HCN-2 cell |
| BTO:0003263 | HEK-AD293 cell |
| BTO:0003264 | HL-1 cell |
| BTO:0003265 | cardiac muscle cell line |
| BTO:0003266 | HPAF-2 cell |
| BTO:0003267 | HS-766T cell |
| BTO:0003268 | HS578 cell |
| BTO:0003269 | feather barbicels |
| BTO:0003270 | Me665/2 cell |
| BTO:0003271 | great saphenous vein |
| BTO:0003272 | small saphenous vein |
| BTO:0003273 | saphenous vein endothelium |
| BTO:0003274 | saphenous vein endothelial cell line |
| BTO:0003275 | HSVEC cell |
| BTO:0003276 | EHEB cell |
| BTO:0003277 | H2.35 cell |
| BTO:0003278 | V79MZh11B1 cell |
| BTO:0003279 | V79MZh11B2 cell |
| BTO:0003280 | sessile cell |
| BTO:0003281 | planktonic cell |
| BTO:0003282 | Tet-iNOS-293 cell |
| BTO:0003283 | SC-M1 cell |
| BTO:0003284 | TMC-1 cell |
| BTO:0003285 | PCI-43 cell |
| BTO:0003286 | PCI-35 cell |
| BTO:0003287 | NK-92 cell |
| BTO:0003288 | NALM-6 cell |
| BTO:0003289 | NAMALWA cell |
| BTO:0003290 | PanIN cell |
| BTO:0003291 | P493-6 cell |
| BTO:0003292 | RAW-264.7 cell |
| BTO:0003293 | Rat-1 cell |
| BTO:0003294 | Rat1-R12 cell |
| BTO:0003295 | OP-9 cell |
| BTO:0003296 | bone marrow stromal cell line |
| BTO:0003297 | NCTC-2544 cell |
| BTO:0003298 | mesenchymal stem cell |
| BTO:0003299 | MM5MT cell |
| BTO:0003300 | MM5MTC cell |
| BTO:0003301 | MEWO cell |
| BTO:0003302 | MDA-Panc-3 cell |
| BTO:0003303 | MDA-Panc-28 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0003304 | MDA-1483 cell |
| BTO:0003305 | epipodite |
| BTO:0003306 | Mat-Ly-Lu cell |
| BTO:0003307 | L6E9 cell |
| BTO:0003308 | L-363 cell |
| BTO:0003309 | KMBC cell |
| BTO:0003310 | KMCH cell |
| BTO:0003311 | Mz-ChA-1 cell |
| BTO:0003312 | KM-12C cell |
| BTO:0003313 | WT-8 cell |
| BTO:0003314 | J.CaM1.6 cell |
| BTO:0003315 | UM-SCC-2 cell |
| BTO:0003316 | JB6 Cl41 cell |
| BTO:0003317 | INS-1E cell |
| BTO:0003318 | INS-1 823/13 cell |
| BTO:0003319 | Hepa-1 cell |
| BTO:0003320 | HEL-92.1.7 cell |
| BTO:0003321 | HCE cell |
| BTO:0003322 | HCC-2998 cell |
| BTO:0003323 | HCC-1937 cell |
| BTO:0003324 | cardiomyocyte cell line |
| BTO:0003325 | GE-11 cell |
| BTO:0003326 | FLK cell |
| BTO:0003327 | FL83B cell |
| BTO:0003328 | FL5.12 cell |
| BTO:0003329 | EMT-6 cell |
| BTO:0003330 | culture condition:n-hexadecane-grown cell |
| BTO:0003331 | culture condition:methane-grown cell |
| BTO:0003332 | culture condition:glycolate-grown cell |
| BTO:0003333 | culture condition:1,2-propanediol-grown cell |
| BTO:0003334 | culture condition:lactate/sulfate-grown cell |
| BTO:0003335 | EBV-LCL cell |
| BTO:0003336 | pulmonary artery smooth muscle cell |
| BTO:0003337 | pulmonary artery smooth muscle cell line |
| BTO:0003338 | CS-54 cell |
| BTO:0003339 | HCMEC/D3 cell |
| BTO:0003340 | CL-3 cell |
| BTO:0003341 | CL1-1 cell |
| BTO:0003342 | CL1-2 cell |
| BTO:0003343 | CL1-3 cell |
| BTO:0003344 | CL1-4 cell |
| BTO:0003345 | CL1 lung adenocarcinoma cell |
| BTO:0003346 | corneal fibroblast cell line |
| BTO:0003347 | C4-2 cell |
| BTO:0003348 | C20D cell |
| BTO:0003349 | microglial cell line |
| BTO:0003350 | BV-2 cell |
| BTO:0003351 | BN17 cell |
| BTO:0003352 | brain capillary endothelial cell line |
| BTO:0003353 | bEnd3 cell |
| BTO:0003354 | B-cell chronic lymphocytic leukemia cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-------------------------------|
| BTO:0003355 | BEAS-2B/BBM cell |
| BTO:0003356 | BBm cell |
| BTO:0003357 | ARPE cell |
| BTO:0003358 | groin |
| BTO:0003359 | neointima |
| BTO:0003360 | extraembryonic tissue |
| BTO:0003361 | anterior visceral endoderm |
| BTO:0003362 | anterior visceral ectoderm |
| BTO:0003363 | hyphal tip |
| BTO:0003364 | gingival fluid |
| BTO:0003365 | germinated grain |
| BTO:0003366 | robust nucleus of arcopallium |
| BTO:0003367 | daphnid |
| BTO:0003368 | frontal gland |
| BTO:0003369 | face |
| BTO:0003370 | craniofacial region |
| BTO:0003371 | endometrial spiral artery |
| BTO:0003372 | gametophore |
| BTO:0003373 | gametangium |
| BTO:0003374 | antheridium |
| BTO:0003375 | archegonium |
| BTO:0003376 | RCH-ACV cell |
| BTO:0003377 | periderm |
| BTO:0003378 | phellem |
| BTO:0003379 | phellogen |
| BTO:0003380 | phellogerm |
| BTO:0003381 | vestibular system |
| BTO:0003382 | inner ear vestibulum |
| BTO:0003383 | semicircular canal |
| BTO:0003384 | small intestine adenoma cell |
| BTO:0003385 | etiolated plant tissue |
| BTO:0003386 | hypoglossal nerve |
| BTO:0003387 | raphe nucleus |
| BTO:0003388 | tegmentum |
| BTO:0003389 | nidopallium |
| BTO:0003390 | high vocal center |
| BTO:0003391 | hepatic primordium |
| BTO:0003392 | medial nidopallium |
| BTO:0003393 | granule cell |
| BTO:0003394 | Brockmann body |
| BTO:0003395 | Spemanns organizer |
| BTO:0003396 | pontine nucleus |
| BTO:0003397 | feather barbules |
| BTO:0003398 | ganglion cell layer |
| BTO:0003399 | avian pallium |
| BTO:0003400 | hyperpallium |
| BTO:0003401 | subpallium |
| BTO:0003402 | hyperpallium apicale |
| BTO:0003403 | hyperpallium intercalare |
| BTO:0003404 | hyperpallium densocellulare |
| BTO:0003405 | mesopallium |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0003406 | mesopallium dorsale |
| BTO:0003407 | mesopallium ventrale |
| BTO:0003408 | arcopallium |
| BTO:0003409 | posterior amygdala |
| BTO:0003410 | nucleus taeniae |
| BTO:0003411 | nucleus isthmo-opticus |
| BTO:0003412 | rostral migratory stream |
| BTO:0003413 | encysting cell |
| BTO:0003414 | XF-498 cell |
| BTO:0003415 | conjunctiva |
| BTO:0003416 | culture condition:bovine serum albumin-grown cell |
| BTO:0003417 | culture condition:rhodamine B-grown cell |
| BTO:0003418 | biceps femoris |
| BTO:0003419 | biceps brachii |
| BTO:0003420 | trophoblast cell line |
| BTO:0003421 | ACH-3P cell |
| BTO:0003422 | AF5 cell |
| BTO:0003423 | lacrimal gland acinar cell |
| BTO:0003424 | B16F10-Nex2 cell |
| BTO:0003425 | area postrema |
| BTO:0003426 | fourth ventricle |
| BTO:0003427 | Barrett's esophagus |
| BTO:0003428 | beta-TC6 cell |
| BTO:0003429 | BIC-1 cell |
| BTO:0003430 | SEG-1 cell |
| BTO:0003431 | dermatofibroma cell |
| BTO:0003432 | EL-4 cell |
| BTO:0003433 | endometrial gland |
| BTO:0003434 | choanomastigote |
| BTO:0003435 | memory T-lymphocyte |
| BTO:0003436 | synovial cell line |
| BTO:0003437 | MH7A cell |
| BTO:0003438 | WM-9 cell |
| BTO:0003439 | NB7 cell |
| BTO:0003440 | COLO-357 cell |
| BTO:0003441 | L3.6pl cell |
| BTO:0003442 | CCD-43Sk cell |
| BTO:0003443 | UACC-893 cell |
| BTO:0003444 | HCC-1395 cell |
| BTO:0003445 | carotid atherosclerotic plaque |
| BTO:0003446 | cholesteatoma tissue |
| BTO:0003447 | cavum septum pellucidum |
| BTO:0003448 | septum pellucidum |
| BTO:0003449 | AML-12 cell |
| BTO:0003450 | CHO-6 cell |
| BTO:0003451 | C8PA cell |
| BTO:0003452 | adipocyte cell line |
| BTO:0003453 | dentin |
| BTO:0003454 | eosinophilic myelocyte |
| BTO:0003455 | neutrophilic myelocyte |
| BTO:0003456 | basophilic myelocyte |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0003457 | endometrioma cell |
| BTO:0003458 | chromophobe renal cell carcinoma cell |
| BTO:0003459 | GC-7 cell |
| BTO:0003460 | HT-115 cell |
| BTO:0003461 | HT-1376 cell |
| BTO:0003462 | outer dental epithelium |
| BTO:0003463 | inner dental epithelium |
| BTO:0003464 | CA-HPV-10 cell |
| BTO:0003465 | 293-IL-1RI cell |
| BTO:0003466 | 293-CD40 cell |
| BTO:0003467 | HS-294T cell |
| BTO:0003468 | HEK-293B2 cell |
| BTO:0003469 | HKE-3 cell |
| BTO:0003470 | BT-483 cell |
| BTO:0003471 | MDA-MB-175-VII cell |
| BTO:0003472 | vagus nerve |
| BTO:0003473 | polymorphonuclear neutrophil |
| BTO:0003474 | WM-239 cell |
| BTO:0003475 | WM-35 cell |
| BTO:0003476 | SK-MEL-2 cell |
| BTO:0003477 | SK-HEP-1 cell |
| BTO:0003478 | SNU-638 cell |
| BTO:0003479 | SNU-484 cell |
| BTO:0003480 | SNK-57 cell |
| BTO:0003481 | NKB-1 cell |
| BTO:0003482 | WI-26 cell |
| BTO:0003483 | sebaceous gland cell line |
| BTO:0003484 | SZ-95 cell |
| BTO:0003485 | RPAEC cell |
| BTO:0003486 | RPMEC cell |
| BTO:0003487 | visceral endoderm |
| BTO:0003488 | vibrissa |
| BTO:0003489 | vibrissal follicle |
| BTO:0003490 | vestibulocochlear nerve |
| BTO:0003491 | SW-1990 cell |
| BTO:0003492 | PLC-PRF-5 cell |
| BTO:0003493 | SUIT-2 cell |
| BTO:0003494 | peripheral blood cell |
| BTO:0003495 | PDNEC cell |
| BTO:0003496 | MDNEC cell |
| BTO:0003497 | papillary renal cell carcinoma cell |
| BTO:0003498 | OVISE cell |
| BTO:0003499 | OVTKO cell |
| BTO:0003500 | OVMANA cell |
| BTO:0003501 | OVSAYO cell |
| BTO:0003502 | OVSAHO cell |
| BTO:0003503 | OVKATE cell |
| BTO:0003504 | OV-202 cell |
| BTO:0003505 | T-cell chronic lymphocytic leukemia cell |
| BTO:0003506 | SAF-1 cell |
| BTO:0003507 | tail fin cell line |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|-------------------------------|
| BTO:0003508 | RPMI-7951 cell |
| BTO:0003509 | headfoot |
| BTO:0003510 | RLE-6TN cell |
| BTO:0003511 | alveolar epithelium |
| BTO:0003512 | alveolar epithelial cell line |
| BTO:0003513 | hepatic stellate cell line |
| BTO:0003514 | HSC-180 cell |
| BTO:0003515 | LX-1 cell |
| BTO:0003516 | LX-2 cell |
| BTO:0003517 | hTERT-HSC cell |
| BTO:0003518 | GREF-X cell |
| BTO:0003519 | LI90 cell |
| BTO:0003520 | HSC-T6 cell |
| BTO:0003521 | NFSC cell |
| BTO:0003522 | CFSC cell |
| BTO:0003523 | PAV-1 cell |
| BTO:0003524 | HSC-PQ cell |
| BTO:0003525 | BSC cell |
| BTO:0003526 | MFBY2 cell |
| BTO:0003527 | T-HSC/Cl-6 cell |
| BTO:0003528 | GRX cell |
| BTO:0003529 | SV68 c-IS cell |
| BTO:0003530 | A640-IS cell |
| BTO:0003531 | M1-4HSC cell |
| BTO:0003532 | A7 cell |
| BTO:0003533 | NOR-P1 cell |
| BTO:0003534 | NMB-7 cell |
| BTO:0003535 | IMR-6 cell |
| BTO:0003536 | NCI-H522 cell |
| BTO:0003537 | MIN6-m9 cell |
| BTO:0003538 | MIN6-m14 cell |
| BTO:0003539 | PNT2-C2 cell |
| BTO:0003540 | P4E6 cell |
| BTO:0003541 | OE-33 cell |
| BTO:0003542 | LAN-1 cell |
| BTO:0003543 | L-02 cell |
| BTO:0003544 | KU-7 cell |
| BTO:0003545 | KU-1 cell |
| BTO:0003546 | KP-N-YN cell |
| BTO:0003547 | KP-N-SI cell |
| BTO:0003548 | SMS-KCN cell |
| BTO:0003549 | KP-1N cell |
| BTO:0003550 | KP-2 cell |
| BTO:0003551 | KP-3 cell |
| BTO:0003552 | KK-47 cell |
| BTO:0003553 | MGH-UI cell |
| BTO:0003554 | YTS-1 cell |
| BTO:0003555 | MBT-2 cell |
| BTO:0003556 | SN-56 cell |
| BTO:0003557 | SN-56/OBR cell |
| BTO:0003558 | REC-1 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0003559 | rMC-1 cell |
| BTO:0003560 | CCE cell |
| BTO:0003561 | MG1.19 cell |
| BTO:0003562 | MB-49 cell |
| BTO:0003563 | umbilical artery endothelial cell line |
| BTO:0003564 | HUAEC cell |
| BTO:0003565 | HL1C cell |
| BTO:0003566 | alphaT3-1 cell |
| BTO:0003567 | C-3842 cell |
| BTO:0003568 | mammary gland cell line |
| BTO:0003569 | C57MG cell |
| BTO:0003570 | feather bud |
| BTO:0003571 | HL-60/MX-2 cell |
| BTO:0003572 | HL60/ADR cell |
| BTO:0003573 | HL60/DNR cell |
| BTO:0003574 | HTC-4 cell |
| BTO:0003575 | HK-2 cell |
| BTO:0003576 | proximale tubular epithelium |
| BTO:0003577 | proximale tubular epithelium cell line |
| BTO:0003578 | gingival cell line |
| BTO:0003579 | HGF cell |
| BTO:0003580 | HGEC cell |
| BTO:0003581 | renal glomerular cell line |
| BTO:0003582 | SUP-T1 cell |
| BTO:0003583 | neuroendocrine tumor cell line |
| BTO:0003584 | STC-1 cell |
| BTO:0003585 | SR cell |
| BTO:0003586 | Hep-G2/C3A cell |
| BTO:0003587 | HeLa-MAGI-CCR5 cell |
| BTO:0003588 | HeLa-MAGI cell |
| BTO:0003589 | GM08505 cell |
| BTO:0003590 | GM01492 cell |
| BTO:0003591 | GM00637 cell |
| BTO:0003592 | GM00037 cell |
| BTO:0003593 | schizonte |
| BTO:0003594 | hypnozoite |
| BTO:0003595 | knee |
| BTO:0003596 | uterine sarcoma cell |
| BTO:0003597 | uterine leiomyosarcoma cell |
| BTO:0003598 | uterine endometrial stromal sarcoma cell |
| BTO:0003599 | human lung microvascular endothelial cell |
| BTO:0003600 | M cell |
| BTO:0003601 | plant hilum |
| BTO:0003602 | HeLa GFP-histone H2B cell |
| BTO:0003603 | respiratory mucus |
| BTO:0003604 | renal parenchyma |
| BTO:0003605 | 1321-N1 cell |
| BTO:0003606 | airway fluid |
| BTO:0003607 | chondroblast |
| BTO:0003608 | culture condition:4-amino-3-hydroxybenzoate-grown cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0003609 | culture condition:dicyclopropylketone-grown cell |
| BTO:0003610 | culture condition:L-galactonate-grown cell |
| BTO:0003611 | culture condition:L-tryptophan-grown cell |
| BTO:0003612 | culture condition:n-octane-grown cell |
| BTO:0003613 | lung squamous cell carcinoma cell |
| BTO:0003614 | oral squamous cell carcinoma cell |
| BTO:0003615 | HEK-293 PEAKrapid cell |
| BTO:0003616 | peritoneal dialysis fluid |
| BTO:0003617 | peritoneal exudate |
| BTO:0003618 | HAP-1 cell |
| BTO:0003619 | Hi-5 cell |
| BTO:0003620 | BMMC cell |
| BTO:0003621 | serosal mast cell |
| BTO:0003622 | mucosal mast cell |
| BTO:0003623 | uterine fluid |
| BTO:0003624 | oronasal squamous cell carcinoma cell |
| BTO:0003625 | intervertebral disc |
| BTO:0003626 | nucleus pulposus |
| BTO:0003627 | annulus fibrosus |
| BTO:0003628 | annulus fibrosus cordis |
| BTO:0003629 | annulus fibrosus disci intervertebralis |
| BTO:0003630 | CT-26 cell |
| BTO:0003631 | Colon C26-G cell |
| BTO:0003632 | cervicovaginal fluid |
| BTO:0003633 | colonic adenoma cell |
| BTO:0003634 | esophageal gland |
| BTO:0003635 | esophageal squamous epithelium |
| BTO:0003636 | brain microvascular endothelial cell |
| BTO:0003637 | DG-75 cell |
| BTO:0003638 | DOV-13 cell |
| BTO:0003639 | EJ-1 cell |
| BTO:0003640 | esophageal cell line |
| BTO:0003641 | FLO-1 cell |
| BTO:0003642 | Hca-F cell |
| BTO:0003643 | HD-11 cell |
| BTO:0003644 | metanephric adenoma cell |
| BTO:0003645 | salivary gland tumor cell line |
| BTO:0003646 | pleomorphic adenoma cell |
| BTO:0003647 | olfactory tract |
| BTO:0003648 | olfactory nerve |
| BTO:0003649 | anterior olfactory nucleus |
| BTO:0003650 | optic ganglion |
| BTO:0003651 | spindle cell |
| BTO:0003652 | synovial cell |
| BTO:0003653 | olfactory glomerulus |
| BTO:0003654 | ventricular zone |
| BTO:0003655 | thyroid cartilage |
| BTO:0003656 | adams apple |
| BTO:0003657 | tergal gland |
| BTO:0003658 | tergal gland secretion |
| BTO:0003659 | secretory cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0003660 | laryngeal cartilage |
| BTO:0003661 | ovary epithelium |
| BTO:0003662 | nucleus recessus lateralis |
| BTO:0003663 | nucleus recessus posterioris |
| BTO:0003664 | nucleus preopticus |
| BTO:0003665 | nucleus recessus preopticus |
| BTO:0003666 | outer hair cell |
| BTO:0003667 | inner hair cell |
| BTO:0003668 | leaf bud |
| BTO:0003669 | keloid |
| BTO:0003670 | microfilarial stage |
| BTO:0003671 | germinal center |
| BTO:0003672 | interdigitating reticulum cell |
| BTO:0003673 | nephrotome |
| BTO:0003674 | temporomandibular joint |
| BTO:0003675 | temporomandibular articular disk |
| BTO:0003676 | lymphoblastic leukemia cell |
| BTO:0003677 | chorion frondosum |
| BTO:0003678 | placental disc |
| BTO:0003679 | MRK-nu-1 cell |
| BTO:0003680 | Mo-B cell |
| BTO:0003681 | hairy cell leukemia cell line |
| BTO:0003682 | hairy cell leukemia cell |
| BTO:0003683 | I 9.2 cell |
| BTO:0003684 | habenula |
| BTO:0003685 | habenular nucleus |
| BTO:0003686 | medial habenular nucleus |
| BTO:0003687 | serous cell |
| BTO:0003688 | serous acinar cell |
| BTO:0003689 | mucous cell |
| BTO:0003690 | mucous acinar cell |
| BTO:0003691 | malignant mixed Muellerian tumor cell |
| BTO:0003692 | prostatic intraepithelial neoplasia cell |
| BTO:0003693 | natural killer large granular lymphocytic leukemia cell |
| BTO:0003694 | CNS cell line |
| BTO:0003695 | CAD cell |
| BTO:0003696 | ATRkd cell |
| BTO:0003697 | endometrial stromal cell |
| BTO:0003698 | coronary atherosclerotic plaque |
| BTO:0003699 | C1R cell |
| BTO:0003700 | C1R-B27 cell |
| BTO:0003701 | spinal trigeminal tract |
| BTO:0003702 | rheumatoid arthritis disease specific synovial tissue |
| BTO:0003703 | rheumatoid arthritis disease specific fibroblast-like synoviocyte |
| BTO:0003704 | H4 neuroglioma cell |
| BTO:0003705 | cornu ammonis |
| BTO:0003706 | WTK-1 cell |
| BTO:0003707 | TK-6 cell |
| BTO:0003708 | WPMY-1 cell |
| BTO:0003709 | RWPE-1 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------|
| BTO:0003710 | WM-451Lu cell |
| BTO:0003711 | WM-75 cell |
| BTO:0003712 | WM98-1 cell |
| BTO:0003713 | WM-793 cell |
| BTO:0003714 | VMRC-RCW cell |
| BTO:0003715 | VMRC-RCZ cell |
| BTO:0003716 | ScN2a cell |
| BTO:0003717 | vesicular gland |
| BTO:0003718 | vasculature |
| BTO:0003719 | V-79-4 cell |
| BTO:0003720 | UT-SCC-9 cell |
| BTO:0003721 | UT-SCC-2 cell |
| BTO:0003722 | UT-SCC-24A cell |
| BTO:0003723 | UM-UC-3 cell |
| BTO:0003724 | RT-112 cell |
| BTO:0003725 | SK-UT-1B cell |
| BTO:0003726 | SHP-77 cell |
| BTO:0003727 | U-1810 cell |
| BTO:0003728 | TXM-13 cell |
| BTO:0003729 | TUHR-4TKB cell |
| BTO:0003730 | TUHR-14TKB cell |
| BTO:0003731 | RCC-10RGB cell |
| BTO:0003732 | TUHR-10TKB cell |
| BTO:0003733 | TUHR-16TKB cell |
| BTO:0003734 | 598-RCC cell |
| BTO:0003735 | TUHR-25TKB cell |
| BTO:0003736 | thyroid epithelial cell |
| BTO:0003737 | tailbud stage |
| BTO:0003738 | tenia tecta |
| BTO:0003739 | TALL-1 cell |
| BTO:0003740 | TALL-104 cell |
| BTO:0003741 | T-47 cell |
| BTO:0003742 | synoviocyte |
| BTO:0003743 | SW-872 cell |
| BTO:0003744 | liposarcoma cell line |
| BTO:0003745 | liposarcoma cell |
| BTO:0003746 | SW-1398 cell |
| BTO:0003747 | superficial temporal artery |
| BTO:0003748 | superficial temporal vein |
| BTO:0003749 | pars compacta |
| BTO:0003750 | pars reticulata |
| BTO:0003751 | submucosal gland |
| BTO:0003752 | lamina epithelialis mucosa |
| BTO:0003753 | central medial thalamic nucleus |
| BTO:0003754 | BRE-169 cell |
| BTO:0003755 | STF1-169 cell |
| BTO:0003756 | STAV-FCS cell |
| BTO:0003757 | Vester cell |
| BTO:0003758 | STAV-AB cell |
| BTO:0003759 | SNUOT-Rb1 cell |
| BTO:0003760 | SNU-182 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0003761 | SNB-19 cell |
| BTO:0003762 | PZ-HPV-7 cell |
| BTO:0003763 | SHAC cell |
| BTO:0003764 | NCI cell |
| BTO:0003765 | dermatofibroma cell line |
| BTO:0003766 | giant cell tumor cell line |
| BTO:0003767 | A-204 cell |
| BTO:0003768 | A-673 cell |
| BTO:0003769 | A-498 cell |
| BTO:0003770 | A-427 cell |
| BTO:0003771 | T2 cell |
| BTO:0003772 | SF-268 cell |
| BTO:0003773 | oropharyngeal squamous cell carcinoma cell |
| BTO:0003774 | SCC-25 cell |
| BTO:0003775 | SCC-4 cell |
| BTO:0003776 | urinary bladder squamous cell carcinoma cell line |
| BTO:0003777 | SCaBER cell |
| BTO:0003778 | SAOS-alpha2beta1 cell |
| BTO:0003779 | RN-46A cell |
| BTO:0003780 | RM-1 cell |
| BTO:0003781 | RCC 786-O cell |
| BTO:0003782 | rectal adenocarcinoma cell |
| BTO:0003783 | rectal adenocarcinoma cell line |
| BTO:0003784 | RCCD-2 cell |
| BTO:0003785 | ray floret |
| BTO:0003786 | transverse occipital sulcus |
| BTO:0003787 | intraparietal sulcus |
| BTO:0003788 | splenial gyrus |
| BTO:0003789 | PR-Mel cell |
| BTO:0003790 | MR-Mel cell |
| BTO:0003791 | glandular stomach |
| BTO:0003792 | OV-2008 cell |
| BTO:0003793 | pituicyte |
| BTO:0003794 | chlorenchyma |
| BTO:0003795 | periventricular nucleus of hypothalamus |
| BTO:0003796 | periglomerular cell |
| BTO:0003797 | unicellular trichome |
| BTO:0003798 | multicellular trichome |
| BTO:0003799 | secretory trichome |
| BTO:0003800 | PCCL-3 cell |
| BTO:0003801 | ovum |
| BTO:0003802 | macrogamete |
| BTO:0003803 | serous adenocarcinoma cell line |
| BTO:0003804 | ovarian serous adenocarcinoma cell line |
| BTO:0003805 | alpha-motoneuron |
| BTO:0003806 | gamma-motoneuron |
| BTO:0003807 | BJ cell |
| BTO:0003808 | FHC cell |
| BTO:0003809 | soil |
| BTO:0003810 | enrichment culture |
| BTO:0003811 | interneuron |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0003812 | culture condition:tetrahydrofurfuryl alcohol-grown cell |
| BTO:0003813 | culture condition:(4R)-limonene-grown cell |
| BTO:0003814 | culture condition:1-butanol-grown cell |
| BTO:0003815 | culture condition:2-butanol-grown cell |
| BTO:0003816 | culture condition:benzylamine-grown cell |
| BTO:0003817 | culture condition:butane-grown cell |
| BTO:0003818 | culture condition:DL-lactate-grown cell |
| BTO:0003819 | culture condition:ethene-grown cell |
| BTO:0003820 | culture condition:glucose/acetate-grown cell |
| BTO:0003821 | culture condition:glycerol/acetate-grown cell |
| BTO:0003822 | culture condition:maltose-grown cell |
| BTO:0003823 | culture condition:monoterpene-grown cell |
| BTO:0003824 | culture condition:n-butanol-grown cell |
| BTO:0003825 | culture condition:n-hexadecane grown-cell |
| BTO:0003826 | culture condition:phenylethylamine-grown cell |
| BTO:0003827 | culture condition:pimelate-grown cell |
| BTO:0003828 | culture condition:polyurethane foam-grown cell |
| BTO:0003829 | culture condition:pyruvate-grown cell |
| BTO:0003830 | culture condition:rutin-grown cell |
| BTO:0003831 | culture condition:v vinyl chloride-grown cell |
| BTO:0003832 | culture-condition:naphthalene-grown cell |
| BTO:0003833 | buccal mucosa |
| BTO:0003834 | conceptus |
| BTO:0003835 | cerebellar nucleus |
| BTO:0003836 | nucleus dentatus |
| BTO:0003837 | nucleus emboliformis |
| BTO:0003838 | nucleus globosus |
| BTO:0003839 | nucleus fastigii |
| BTO:0003840 | cerebrovascular system |
| BTO:0003841 | plant organ culture |
| BTO:0003842 | GM02037 cell |
| BTO:0003843 | FU-01 cell |
| BTO:0003844 | inferior olfactory nucleus |
| BTO:0003845 | A2780/CP70 cell |
| BTO:0003846 | ACHN cell |
| BTO:0003847 | CRBM-1990 cell |
| BTO:0003848 | adenoid cystic carcinoma cell |
| BTO:0003849 | adenosquamous carcinoma cell |
| BTO:0003850 | ALVA-31 cell |
| BTO:0003851 | AOK-B50 cell |
| BTO:0003852 | astroglia |
| BTO:0003853 | B16-F1 cell |
| BTO:0003854 | BL-41 cell |
| BTO:0003855 | BL-70 cell |
| BTO:0003856 | BON-1 cell |
| BTO:0003857 | bone marrow-derived dendritic cell |
| BTO:0003858 | chondrocyte cell line |
| BTO:0003859 | C-28/I2 cell |
| BTO:0003860 | T/C-28a2 cell |
| BTO:0003861 | inflammatory cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0003862 | CCD-19LU cell |
| BTO:0003863 | CCF-STTG1 cell |
| BTO:0003864 | CMT-93 cell |
| BTO:0003865 | enteroendocrine cell |
| BTO:0003866 | APUD cell |
| BTO:0003867 | deutocerebrum |
| BTO:0003868 | protocerebrum |
| BTO:0003869 | tritocerebrum |
| BTO:0003870 | insect tracheal system |
| BTO:0003871 | uterine endometrial cancer cell |
| BTO:0003872 | foam cell |
| BTO:0003873 | follicular adenoma cell |
| BTO:0003874 | follicular thyroid cancer cell line |
| BTO:0003875 | FTC-236 cell |
| BTO:0003876 | plant funiculus |
| BTO:0003877 | G-292 cell |
| BTO:0003878 | BGC-823 cell |
| BTO:0003879 | GBM-8401 cell |
| BTO:0003880 | G9T/VGH cell |
| BTO:0003881 | HSC-2 cell |
| BTO:0003882 | blastocyte |
| BTO:0003883 | pancreatic ductal adenocarcinoma cell line |
| BTO:0003884 | HMT-3522 cell |
| BTO:0003885 | Hs-578T cell |
| BTO:0003886 | Hs-578Bst cell |
| BTO:0003887 | JHU-022 cell |
| BTO:0003888 | JHU-029 cell |
| BTO:0003889 | JHU-019 cell |
| BTO:0003890 | JHU-013 cell |
| BTO:0003891 | JHU-011 cell |
| BTO:0003892 | HC-11 cell |
| BTO:0003893 | HB4a cell |
| BTO:0003894 | skin carcinoma cell line |
| BTO:0003895 | HaCa-4 cell |
| BTO:0003896 | CarB cell |
| BTO:0003897 | hepatobiliary carcinoma cell |
| BTO:0003898 | GT1 cell |
| BTO:0003899 | GT1-1 cell |
| BTO:0003900 | MCF-10F cell |
| BTO:0003901 | MEL-745A cell |
| BTO:0003902 | MEL-745A cl. DS19 cell |
| BTO:0003903 | HIG-82 cell |
| BTO:0003904 | HOS cell |
| BTO:0003905 | HPENC cell |
| BTO:0003906 | uroepithelium |
| BTO:0003907 | uroepithelial cell line |
| BTO:0003908 | HUC-1 cell |
| BTO:0003909 | bile duct cell line |
| BTO:0003910 | stellate reticulum |
| BTO:0003911 | HuCCT-1 cell |
| BTO:0003912 | IMCD cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0003913 | mIMCD-3 cell |
| BTO:0003914 | interstitial cell of Cajal |
| BTO:0003915 | hairy root culture |
| BTO:0003916 | plant culture |
| BTO:0003917 | KB-V1 cell |
| BTO:0003918 | KB-3-1 cell |
| BTO:0003919 | KB-CH[R]-8-5 cell |
| BTO:0003920 | Kc-167 cell |
| BTO:0003921 | KHOS cell |
| BTO:0003922 | KHOS/NP (R-970-5) cell |
| BTO:0003923 | KHOS-240S cell |
| BTO:0003924 | KHOS-321H cell |
| BTO:0003925 | renal papilla |
| BTO:0003926 | renal pyramid |
| BTO:0003927 | metacercaria |
| BTO:0003928 | Mono-Mac-1 cell |
| BTO:0003929 | MM1-R cell |
| BTO:0003930 | ARK-B cell |
| BTO:0003931 | ARP-1 cell |
| BTO:0003932 | KMS-11 cell |
| BTO:0003933 | MM1-S cell |
| BTO:0003934 | KKU-100 cell |
| BTO:0003935 | L57-3-11 cell |
| BTO:0003936 | laryngeal squamous cell carcinoma cell |
| BTO:0003937 | lateral septal area |
| BTO:0003938 | leaf disc |
| BTO:0003939 | lutein cell |
| BTO:0003940 | macula densa |
| BTO:0003941 | MDA-MB-435S cell |
| BTO:0003942 | MDAH-2774 cell |
| BTO:0003943 | SKOV cell |
| BTO:0003944 | Mel-Ab cell |
| BTO:0003945 | MN-9D cell |
| BTO:0003946 | MMDD1 cell |
| BTO:0003947 | MPCT-G cell |
| BTO:0003948 | distal tubular epithelium |
| BTO:0003949 | distal tubular epithelium cell line |
| BTO:0003950 | DKC-8 cell |
| BTO:0003951 | medial longitudinal fasciculus |
| BTO:0003952 | mesenchymal stromal cell |
| BTO:0003953 | endomesoderm |
| BTO:0003954 | dopaminergic system |
| BTO:0003955 | N-11 cell |
| BTO:0003956 | N-38 cell |
| BTO:0003957 | N-9 cell |
| BTO:0003958 | Neuro2A-Luc cell |
| BTO:0003959 | NHOK cell |
| BTO:0003960 | nasopharyngeal carcinoma cell line |
| BTO:0003961 | NPC-TW02 cell |
| BTO:0003962 | NPC-TW04 cell |
| BTO:0003963 | nucleus solitarius |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------------|
| BTO:0003964 | OECM-1 cell |
| BTO:0003965 | anterior olfactory lobule |
| BTO:0003966 | posterior olfactory lobule |
| BTO:0003967 | OSRGA cell |
| BTO:0003968 | OUS-11 cell |
| BTO:0003969 | hair follicle outer root sheath |
| BTO:0003970 | outer root sheath companion layer |
| BTO:0003971 | hair follicle inner root sheath |
| BTO:0003972 | prostate gland stromal cell |
| BTO:0003974 | pulmonary sclerosing hemangioma cell |
| BTO:0003975 | cingulate cortex |
| BTO:0003976 | cingulate gyrus |
| BTO:0003977 | retrosplenial region |
| BTO:0003978 | Brodmann area 29 |
| BTO:0003979 | Brodmann area 26 |
| BTO:0003980 | SGHPL-4 cell |
| BTO:0003981 | SAS cell |
| BTO:0003982 | retinal stem cell |
| BTO:0003983 | TXM-18 cell |
| BTO:0003984 | A-375P cell |
| BTO:0003985 | A-375SM cell |
| BTO:0003986 | SB-2 cell |
| BTO:0003987 | root culture |
| BTO:0003988 | DX-3 cell |
| BTO:0003989 | OV2008/C13 cell |
| BTO:0003990 | CH12F3-2 cell |
| BTO:0003991 | pleural mesothelioma cell line |
| BTO:0003992 | ZL-34 cell |
| BTO:0003993 | ZP-121 cell |
| BTO:0003994 | hoof |
| BTO:0003995 | horny lamina |
| BTO:0003996 | sensitive lamina |
| BTO:0003997 | hoof lamina |
| BTO:0003998 | 41-M cell |
| BTO:0003999 | M-14-K cell |
| BTO:0004000 | M-28-K cell |
| BTO:0004001 | M-9-K cell |
| BTO:0004002 | HEMn cell |
| BTO:0004003 | NA cell |
| BTO:0004004 | 3-LL cell |
| BTO:0004005 | BALB/3T3-T cell |
| BTO:0004006 | OC-3 cell |
| BTO:0004007 | porcine aortic endothelial cell |
| BTO:0004008 | medial mammillary nucleus |
| BTO:0004009 | lateral mammillary nucleus |
| BTO:0004010 | HT-2 cell |
| BTO:0004011 | PNET-2 cell |
| BTO:0004012 | ROS cell |
| BTO:0004013 | Colon-26 cell |
| BTO:0004014 | embryonic cerebral cortex |
| BTO:0004015 | HC11-C24 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004016 | laterodorsal tegmental nucleus |
| BTO:0004017 | HCFMK-1 cell |
| BTO:0004018 | HCTK-1 cell |
| BTO:0004019 | larynx squamous cell carcinoma cell line |
| BTO:0004020 | HLaC-78 cell |
| BTO:0004021 | HLaC-79 cell |
| BTO:0004022 | UM-SCC-17A cell |
| BTO:0004023 | UM-SCC-5 cell |
| BTO:0004024 | neural cord |
| BTO:0004025 | claw muscle |
| BTO:0004026 | 4TO7 cell |
| BTO:0004027 | 94-H48 cell |
| BTO:0004028 | 95-H1 cell |
| BTO:0004029 | 94-H4 cell |
| BTO:0004030 | 95-H3 cell |
| BTO:0004031 | 95-H12 cell |
| BTO:0004032 | dopaminergic neuron |
| BTO:0004033 | catecholaminergic neuron |
| BTO:0004034 | A-224 cell |
| BTO:0004035 | 222 cell |
| BTO:0004036 | UCI-107 cell |
| BTO:0004037 | AD-10 cell |
| BTO:0004038 | colonic neoplasm cell |
| BTO:0004039 | ML-3B cell |
| BTO:0004040 | ML-5 cell |
| BTO:0004041 | abdominal adipose tissue |
| BTO:0004042 | subcutaneous adipose tissue |
| BTO:0004043 | intramuscular adipose tissue |
| BTO:0004044 | amacrine cell |
| BTO:0004045 | air pouch |
| BTO:0004046 | alveolar mucosa |
| BTO:0004047 | apical hook |
| BTO:0004048 | aril |
| BTO:0004049 | adult T-cell lymphoma cell line |
| BTO:0004050 | BEL-7402 cell |
| BTO:0004051 | bipolar cell |
| BTO:0004052 | bone marrow stem cell |
| BTO:0004053 | umbilical cord blood |
| BTO:0004054 | umbilical cord blood cell |
| BTO:0004055 | COS cell |
| BTO:0004056 | culture condition:lupanine-grown cell |
| BTO:0004057 | fruit juice |
| BTO:0004058 | C3H10T1/2 cell |
| BTO:0004059 | CCD-18Co cell |
| BTO:0004060 | fibroblast-like synoviocyte |
| BTO:0004061 | CHL-1 cell |
| BTO:0004062 | RPMI-7932 cell |
| BTO:0004063 | chloragogen cell |
| BTO:0004064 | chloragocyte |
| BTO:0004065 | CHO-MG cell |
| BTO:0004066 | CHO-XRS6 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004067 | C26-10 cell |
| BTO:0004068 | C26-A cell |
| BTO:0004069 | C26-G cell |
| BTO:0004070 | compost |
| BTO:0004071 | middle ear squamous cell carcinoma cell |
| BTO:0004072 | middle ear squamous cell carcinoma cell line |
| BTO:0004073 | CSM14.1 cell |
| BTO:0004074 | cystocyte |
| BTO:0004075 | D1-HEK-293 cell |
| BTO:0004076 | DHL-4 cell |
| BTO:0004077 | EKVX cell |
| BTO:0004078 | non-small cell lung adenocarcinoma cell line |
| BTO:0004079 | H-650 cell |
| BTO:0004080 | HOP-62 cell |
| BTO:0004081 | HCC-4006 cell |
| BTO:0004082 | HCC-827 cell |
| BTO:0004083 | HCC-2935 cell |
| BTO:0004084 | epitrochlearis muscle |
| BTO:0004085 | HOP-92 cell |
| BTO:0004086 | mammary gland tumor cell line |
| BTO:0004087 | mammary gland tumor cell |
| BTO:0004088 | female urethra |
| BTO:0004089 | male urethra |
| BTO:0004090 | pancreatic invasive ductal adenocarcinoma cell |
| BTO:0004091 | embryonic neural stem cell |
| BTO:0004092 | endogenous progenitor cell |
| BTO:0004093 | endothelial progenitor cell |
| BTO:0004094 | epithelial ovarian cancer cell |
| BTO:0004095 | EONT cell |
| BTO:0004096 | coronary artery endothelial cell |
| BTO:0004097 | epididymal clear cell |
| BTO:0004098 | renal clear cell |
| BTO:0004099 | parathyroid gland clear cell |
| BTO:0004100 | sweat gland clear cell |
| BTO:0004101 | fascicle |
| BTO:0004102 | cerebral cortical neuron |
| BTO:0004103 | leaf primordium |
| BTO:0004104 | insect labium |
| BTO:0004105 | FPMI-CF-203 cell |
| BTO:0004106 | IPRI-MD-66 cell |
| BTO:0004107 | antral mucosa |
| BTO:0004108 | G cell |
| BTO:0004109 | fundic mucosa |
| BTO:0004110 | pyloric mucosa |
| BTO:0004111 | gastrointestinal stromal tumor cell |
| BTO:0004112 | GBC-SD cell |
| BTO:0004113 | GLC-82 cell |
| BTO:0004114 | adrenocortical carcinoma cell line |
| BTO:0004115 | HAC cell |
| BTO:0004116 | HEP-3B2 cell |
| BTO:0004117 | HFK cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|----------------------------|
| BTO:0004118 | HITC6 cell |
| BTO:0004119 | HL-60 (TB) cell |
| BTO:0004120 | horizontal cell |
| BTO:0004121 | HPAC cell |
| BTO:0004122 | bone marrow stromal cell |
| BTO:0004123 | HS-5 cell |
| BTO:0004124 | HT-1197 cell |
| BTO:0004125 | HTR-8/SVneo cell |
| BTO:0004126 | Huh-7.5 cell |
| BTO:0004127 | Huma-7 cell |
| BTO:0004128 | lung endothelium |
| BTO:0004129 | ovary epithelium cell line |
| BTO:0004130 | IOSE cell |
| BTO:0004131 | IOSE-397 cell |
| BTO:0004132 | IOSE-29 cell |
| BTO:0004133 | IOSE-4p2 cell |
| BTO:0004134 | IOSE-2Ap2 cell |
| BTO:0004135 | IOSE-398 cell |
| BTO:0004136 | Kasumi-1 cell |
| BTO:0004137 | KCL-22 cell |
| BTO:0004138 | gingival fibroblast |
| BTO:0004139 | LAD-2 cell |
| BTO:0004140 | ethmoid bone |
| BTO:0004141 | cibriform plate |
| BTO:0004142 | LH-86 cell |
| BTO:0004143 | Lovo-175X2 cell |
| BTO:0004144 | Lovo-273X17 cell |
| BTO:0004145 | Lovo-li cell |
| BTO:0004146 | Lovo-92 cell |
| BTO:0004147 | lumbar spine |
| BTO:0004148 | cervical spine |
| BTO:0004149 | ischial spine |
| BTO:0004150 | thoracic spine |
| BTO:0004151 | LOX-IMVI cell |
| BTO:0004152 | UACC-62 cell |
| BTO:0004153 | KT-2 cell |
| BTO:0004154 | KT-4 cell |
| BTO:0004155 | Ma-25 cell |
| BTO:0004156 | Ma-31 cell |
| BTO:0004157 | Ma-34 cell |
| BTO:0004158 | Ma-45 cell |
| BTO:0004159 | Ma-53 cell |
| BTO:0004160 | Ma-1 cell |
| BTO:0004161 | MALME-3 cell |
| BTO:0004162 | MALME-3M cell |
| BTO:0004163 | MC-38 cell |
| BTO:0004164 | MDA-MB-435HGF cell |
| BTO:0004165 | meibomian gland |
| BTO:0004166 | myofibroblast cell line |
| BTO:0004167 | lymphatic endothelial cell |
| BTO:0004168 | MHCC-97 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0004169 | MHCC97-H cell |
| BTO:0004170 | MHCC97-L cell |
| BTO:0004171 | MOLT-13 cell |
| BTO:0004172 | MOLT-14 cell |
| BTO:0004173 | MOLT-16 cell |
| BTO:0004174 | MOLT-17 cell |
| BTO:0004175 | MOLM-13 cell |
| BTO:0004176 | MOLM-16 cell |
| BTO:0004177 | MOLM-6 cell |
| BTO:0004178 | leukemic stem cell |
| BTO:0004179 | MX-1 cell |
| BTO:0004180 | NCCIT cell |
| BTO:0004181 | NCI/ADR-RES cell |
| BTO:0004182 | NCI-H322M cell |
| BTO:0004183 | NMuMg cell |
| BTO:0004184 | OKM-2T cell |
| BTO:0004185 | olfactory receptor neuron |
| BTO:0004186 | DuPro cell |
| BTO:0004187 | NRK-E52 cell |
| BTO:0004188 | ECRF cell |
| BTO:0004189 | OVCAR-8/ADR cell |
| BTO:0004190 | pacemaker cell |
| BTO:0004191 | PC-J cell |
| BTO:0004192 | perineuronal net |
| BTO:0004193 | pharyngeal pad |
| BTO:0004194 | pharyngeal process |
| BTO:0004195 | pharyngeal organ |
| BTO:0004196 | placental membrane |
| BTO:0004197 | insect labellum |
| BTO:0004198 | prostomium |
| BTO:0004199 | substantia nigra cell line |
| BTO:0004200 | RCSN-3 cell |
| BTO:0004201 | Ewing's sarcoma cell line |
| BTO:0004202 | RD-ES cell |
| BTO:0004203 | RIE-1 cell |
| BTO:0004204 | nasal squamous cell carcinoma cell line |
| BTO:0004205 | RPMI-2650 cell |
| BTO:0004206 | RPMI-8866 cell |
| BTO:0004207 | RXF-393 cell |
| BTO:0004208 | SB-247 cell |
| BTO:0004209 | seed vessel |
| BTO:0004210 | seminoma cell |
| BTO:0004211 | sensillum trichodeum |
| BTO:0004212 | seta |
| BTO:0004213 | SF-295 cell |
| BTO:0004214 | SF-539 cell |
| BTO:0004215 | SF-763 cell |
| BTO:0004216 | SJSA-1 cell |
| BTO:0004217 | SK-N-DZ cell |
| BTO:0004218 | SK-N-Fl cell |
| BTO:0004219 | submandibular gland cell line |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0004220 | SMG-C6 cell |
| BTO:0004221 | SN-12C cell |
| BTO:0004222 | SNB-75 cell |
| BTO:0004223 | cervical squamous cell carcinoma cell |
| BTO:0004224 | stomodeum |
| BTO:0004225 | striatal neuron |
| BTO:0004226 | TAMH cell |
| BTO:0004227 | TC-32 cell |
| BTO:0004228 | thymus lymphoma cell |
| BTO:0004229 | testicular cell line |
| BTO:0004230 | TM-4 cell |
| BTO:0004231 | TCMK-1 cell |
| BTO:0004232 | tsA-201 cell |
| BTO:0004233 | UACC-257 cell |
| BTO:0004234 | UO-31 cell |
| BTO:0004235 | uterine horn |
| BTO:0004236 | Y1-BS1 cell |
| BTO:0004237 | myometrial cell line |
| BTO:0004238 | interstitial cell |
| BTO:0004239 | ovarian theca-interstitial cell |
| BTO:0004240 | germarium |
| BTO:0004241 | ovariole |
| BTO:0004242 | vitellarium |
| BTO:0004243 | trypanosomoid cell line |
| BTO:0004244 | 449 cell |
| BTO:0004245 | NIH-3T3-A14 cell |
| BTO:0004246 | A-364 cell |
| BTO:0004247 | A-547 cell |
| BTO:0004248 | Xenopus A6 cell |
| BTO:0004249 | anterior cingulate cortex |
| BTO:0004250 | posterior cingulate cortex |
| BTO:0004251 | Hepa-1c1c7-c12 cell |
| BTO:0004252 | Hepa-1c1c7-c4 cell |
| BTO:0004253 | plant candle |
| BTO:0004254 | cancer stem cell |
| BTO:0004255 | Ewing's family tumor cell |
| BTO:0004256 | long bone |
| BTO:0004257 | extraosseus Ewing's sarcoma cell |
| BTO:0004258 | primitive neuroectodermal tumor cell |
| BTO:0004259 | primitive neuroectodermal tumor cell line |
| BTO:0004260 | Askin's tumor cell |
| BTO:0004261 | peripheral primitive neuroectodermal tumor cell |
| BTO:0004262 | cerebral giant cell |
| BTO:0004263 | COM-3 cell |
| BTO:0004264 | INC-2 cell |
| BTO:0004265 | EJ cell |
| BTO:0004266 | H-10 cell |
| BTO:0004267 | follicular dendritic cell |
| BTO:0004268 | follicular dendritic cell line |
| BTO:0004269 | liver cancer stem cell |
| BTO:0004270 | adult liver stem cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0004271 | hyalocyte |
| BTO:0004272 | hyalocyte cell line |
| BTO:0004273 | PH-5 cell |
| BTO:0004274 | PLC-8024 cell |
| BTO:0004275 | SM-5 cell |
| BTO:0004276 | SM-7 cell |
| BTO:0004277 | scleral lamina cribrosa |
| BTO:0004278 | cerebellar granule cell |
| BTO:0004279 | cerebral granule cell |
| BTO:0004280 | peptonephridium |
| BTO:0004281 | C-81 cell |
| BTO:0004282 | TSA cell |
| BTO:0004283 | TK-10 cell |
| BTO:0004284 | TK-164 cell |
| BTO:0004285 | oviductal ampulla |
| BTO:0004286 | basophilic leukemia cell |
| BTO:0004287 | culture condition:peptone-grown cell |
| BTO:0004288 | culture condition:starch-grown cell |
| BTO:0004289 | culture condition:Warrens medium-grown cell |
| BTO:0004290 | umbilical artery smooth muscle |
| BTO:0004291 | umbilical vein smooth muscle |
| BTO:0004292 | claustrum |
| BTO:0004293 | heart endothelium |
| BTO:0004294 | heart endothelial cell |
| BTO:0004295 | umbilical artery endothelial cell |
| BTO:0004296 | umbilical vein endothelial cell |
| BTO:0004297 | colonic epithelial cell |
| BTO:0004298 | corneal epithelial cell |
| BTO:0004299 | lung epithelial cell |
| BTO:0004300 | mammary epithelial cell |
| BTO:0004301 | neuroepithelial cell |
| BTO:0004302 | plant epithelium |
| BTO:0004303 | lymphatic endothelium |
| BTO:0004304 | cell lysate |
| BTO:0004305 | hairy root |
| BTO:0004306 | NCM-460 cell |
| BTO:0004307 | hepatic artery |
| BTO:0004308 | CGR-8 cell |
| BTO:0004309 | Cl-66 cell |
| BTO:0004310 | Cl-66M2 cell |
| BTO:0004311 | 4T1 cell |
| BTO:0004312 | JIMT-1 cell |
| BTO:0004313 | GM16096 cell |
| BTO:0004314 | GM16088 cell |
| BTO:0004315 | HTD-114 cell |
| BTO:0004316 | NBT-II cell |
| BTO:0004317 | immune stem cell |
| BTO:0004318 | WB-F344 cell |
| BTO:0004319 | WB-311 cell |
| BTO:0004320 | 1682-A cell |
| BTO:0004321 | 2BN cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0004322 | 2BNneo cell |
| BTO:0004323 | 2BNhTERT cell |
| BTO:0004324 | osteoblast cell line |
| BTO:0004325 | 2T3 cell |
| BTO:0004326 | ADF cell |
| BTO:0004327 | CESS cell |
| BTO:0004328 | DAOY cell |
| BTO:0004329 | Madsen cell |
| BTO:0004330 | UW228-1 cell |
| BTO:0004331 | UW228-2 cell |
| BTO:0004332 | UW228-3 cell |
| BTO:0004333 | Do11.10 cell |
| BTO:0004334 | EBV-PBL cell |
| BTO:0004335 | GP6 cell |
| BTO:0004336 | THC-252 cell |
| BTO:0004337 | THC-H5D cell |
| BTO:0004338 | GN5 cell |
| BTO:0004339 | ScGT1 cell |
| BTO:0004340 | culture condition:high copper medium–grown cell |
| BTO:0004341 | granular insular cortex |
| BTO:0004342 | agranular insular cortex |
| BTO:0004343 | auditory cortex |
| BTO:0004344 | infralimbic cortex |
| BTO:0004345 | entorhinal cortex |
| BTO:0004346 | medial entorhinal cortex |
| BTO:0004347 | lateral entorhinal cortex |
| BTO:0004348 | motor cortex |
| BTO:0004349 | laterodorsal thalamic nucleus |
| BTO:0004350 | lateral dorsal nucleus |
| BTO:0004351 | lateral posterior nucleus |
| BTO:0004352 | pulvinar |
| BTO:0004353 | somatosensory cortex |
| BTO:0004354 | postcentral gyrus |
| BTO:0004355 | perirhinal cortex |
| BTO:0004356 | Brodmann area 35 |
| BTO:0004357 | Brodmann area 36 |
| BTO:0004358 | sinus node |
| BTO:0004359 | paw |
| BTO:0004360 | angiomyolipoma cell |
| BTO:0004361 | callus culture |
| BTO:0004362 | colon muscle |
| BTO:0004363 | gastroesophageal adenocarcinoma cell |
| BTO:0004364 | gastroesophageal junction |
| BTO:0004365 | gastroesophageal cancer cell |
| BTO:0004366 | lateral geniculate nucleus |
| BTO:0004367 | lateral geniculate body |
| BTO:0004368 | vestibular nucleus |
| BTO:0004369 | inferior vestibular nucleus |
| BTO:0004370 | lateral vestibular nucleus |
| BTO:0004371 | medial vestibular nucleus |
| BTO:0004372 | superior vestibular nucleus |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0004373 | ventral posterior nucleus |
| BTO:0004374 | ventral posterior inferior nucleus |
| BTO:0004375 | ventral globus pallidus |
| BTO:0004376 | dorsal globus pallidus |
| BTO:0004377 | pup |
| BTO:0004378 | blood vessel wall |
| BTO:0004379 | parahippocampal region |
| BTO:0004380 | parahippocampal gyrus |
| BTO:0004381 | prelimbic cortex |
| BTO:0004382 | skin epithelium |
| BTO:0004383 | follicular fluid |
| BTO:0004384 | osteoclast stem cell |
| BTO:0004385 | cardinal vein |
| BTO:0004386 | posterior cardinal vein |
| BTO:0004387 | anterior cardinal vein |
| BTO:0004388 | common cardinal vein |
| BTO:0004389 | angiomyolipoma cell line |
| BTO:0004390 | SV7tert cell |
| BTO:0004391 | SPAML/SV7 cell |
| BTO:0004392 | skeletal muscle cell |
| BTO:0004393 | alabastrum |
| BTO:0004394 | 16-HBEo cell |
| BTO:0004395 | microvessel |
| BTO:0004396 | femorotibial joint |
| BTO:0004397 | B-103 cell |
| BTO:0004398 | meningioma cell line |
| BTO:0004399 | BEN-MEN-1 cell |
| BTO:0004400 | BPAEC cell |
| BTO:0004401 | bronchial smooth muscle |
| BTO:0004402 | bronchial smooth muscle cell |
| BTO:0004403 | tracheal smooth muscle cell |
| BTO:0004404 | BL-3 cell |
| BTO:0004405 | 3D5 cell |
| BTO:0004406 | CABA I cell |
| BTO:0004407 | CB33 cell |
| BTO:0004408 | culture condition:CD34+ cell |
| BTO:0004409 | culture condition:CD68+ cell |
| BTO:0004410 | culture condition:CD8+ cell |
| BTO:0004411 | culture condition:CD8- cell |
| BTO:0004412 | oral lichen planus disease specific cell type |
| BTO:0004413 | CJ7 cell |
| BTO:0004414 | KH2 cell |
| BTO:0004415 | DM-4 cell |
| BTO:0004416 | Daltons lymphoma cell |
| BTO:0004417 | Daltons lymphoma ascites cell |
| BTO:0004418 | Daltons lymphoma ascites |
| BTO:0004419 | dermal fibroblast |
| BTO:0004420 | digestive cell |
| BTO:0004421 | salivary gland epithelium |
| BTO:0004422 | pleural cavity |
| BTO:0004423 | empyema fluid |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------------|
| BTO:0004424 | ES-2 cell |
| BTO:0004425 | stratum granulosum cerebelli |
| BTO:0004426 | NCI-H1915 cell |
| BTO:0004427 | NCI-H211 cell |
| BTO:0004428 | H4-II-E-C3 cell |
| BTO:0004429 | H-59 cell |
| BTO:0004430 | HBL-52 cell |
| BTO:0004431 | coronary artery endothelial cell line |
| BTO:0004432 | HCAEC cell |
| BTO:0004433 | HET-1A cell |
| BTO:0004434 | HMEC-1330 cell |
| BTO:0004435 | HOSE 11-12 cell |
| BTO:0004436 | HOSE 6-3 cell |
| BTO:0004437 | HOSE 17-1 cell |
| BTO:0004438 | HSCC cell |
| BTO:0004439 | hypopharyngeal carcinoma cell line |
| BTO:0004440 | UT-SCC-14 cell |
| BTO:0004441 | UT-SCC-15 cell |
| BTO:0004442 | UT-SCC-5 cell |
| BTO:0004443 | XF354 cell |
| BTO:0004444 | HUVE-12 cell |
| BTO:0004445 | IB3-1 cell |
| BTO:0004446 | S9 cell |
| BTO:0004447 | C38 cell |
| BTO:0004448 | LN-235 cell |
| BTO:0004449 | LN-443 cell |
| BTO:0004450 | LN-444 cell |
| BTO:0004451 | LN-464 cell |
| BTO:0004452 | LN-702 cell |
| BTO:0004453 | LN-751 cell |
| BTO:0004454 | LN-774 cell |
| BTO:0004455 | LN-784 cell |
| BTO:0004456 | LN-215 cell |
| BTO:0004457 | LN-308 cell |
| BTO:0004458 | LN-340 cell |
| BTO:0004459 | LN-382 cell |
| BTO:0004460 | FD-1 cell |
| BTO:0004461 | KYSE-30 cell |
| BTO:0004462 | K-562R cell |
| BTO:0004463 | ileostomal fluid |
| BTO:0004464 | IOMM-Lee cell |
| BTO:0004465 | LAMA-84 cell |
| BTO:0004466 | LAMA-87 cell |
| BTO:0004467 | LbetaT2 cell |
| BTO:0004468 | lip epithelium |
| BTO:0004469 | LM3 cell |
| BTO:0004470 | LM6 cell |
| BTO:0004471 | Mahlavu cell |
| BTO:0004472 | mantle cell lymphoma cell |
| BTO:0004473 | MC3T3-E1(C4) cell |
| BTO:0004474 | MDA-MB-231-BAG cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004475 | MEL cell |
| BTO:0004476 | MES-23.5 cell |
| BTO:0004477 | medial temporal lobe |
| BTO:0004478 | mucosal melanoma cell |
| BTO:0004479 | MV4-11 cell |
| BTO:0004480 | nasopharynx epithelium |
| BTO:0004481 | neural crest-derived stem cell |
| BTO:0004482 | ovarian surface epithelial cell line |
| BTO:0004483 | ovarian surface epithelium |
| BTO:0004484 | ovarian surface epithelial cell |
| BTO:0004485 | OV-MZ-10 cell |
| BTO:0004486 | OV-MZ-15 cell |
| BTO:0004487 | OV-MZ-6 cell |
| BTO:0004488 | NSC-34 cell |
| BTO:0004489 | OE-21 cell |
| BTO:0004490 | RFL-6 cell |
| BTO:0004491 | RL95-2 cell |
| BTO:0004492 | gastric epithelial cell |
| BTO:0004493 | gastric epithelium cell line |
| BTO:0004494 | RGM-1 cell |
| BTO:0004495 | SIRC cell |
| BTO:0004496 | preosteoclast |
| BTO:0004497 | WT-51 cell |
| BTO:0004498 | THCE cell |
| BTO:0004499 | prostate gland intraepithelial neoplasia cell line |
| BTO:0004500 | R1 cell |
| BTO:0004501 | plant vascular cell |
| BTO:0004502 | vascular cambium |
| BTO:0004503 | submerged culture |
| BTO:0004504 | root vascular cell |
| BTO:0004505 | RS4-11 cell |
| BTO:0004506 | RT-2 cell |
| BTO:0004507 | sEnd-1 cell |
| BTO:0004508 | endothelioma cell |
| BTO:0004509 | endothelioma cell line |
| BTO:0004510 | cystadenocarcinoma cell |
| BTO:0004511 | serous cystadenocarcinoma cell |
| BTO:0004512 | pseudomucinous cystadenocarcinoma cell |
| BTO:0004513 | Sertoli cell line |
| BTO:0004514 | Ser-W3 cell |
| BTO:0004515 | SF-3061 cell |
| BTO:0004516 | SF-4068 cell |
| BTO:0004517 | SF-4433 cell |
| BTO:0004518 | uterine gland |
| BTO:0004519 | myometrial cell |
| BTO:0004520 | regulatory T-lymphocyte |
| BTO:0004521 | TIG-3-20 cell |
| BTO:0004522 | Leydig cell line |
| BTO:0004523 | TM-3 cell |
| BTO:0004524 | germinal epithelium |
| BTO:0004525 | subcutaneous tissue |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004526 | ulcerative colitis disease specific cell type |
| BTO:0004527 | uterine luminal fluid |
| BTO:0004528 | high endothelial venule |
| BTO:0004529 | PA-23 cell |
| BTO:0004530 | F5 meningioma cell |
| BTO:0004531 | bolting stage |
| BTO:0004532 | C-10 cell |
| BTO:0004533 | respiratory epithelium cell |
| BTO:0004534 | cystic fibrosis disease specific cell type |
| BTO:0004535 | medullary collecting duct cell |
| BTO:0004536 | medullary collecting duct |
| BTO:0004537 | cortical collecting duct cell |
| BTO:0004538 | initial collecting tubule |
| BTO:0004539 | connecting tubule |
| BTO:0004540 | papillary duct |
| BTO:0004541 | connecting tubule cell |
| BTO:0004542 | principal cell |
| BTO:0004543 | inner medullary collecting duct cell |
| BTO:0004544 | inner medullary collecting duct |
| BTO:0004545 | M-1 collecting duct cell |
| BTO:0004546 | hypopharyngeal squamous cell carcinoma cell line |
| BTO:0004547 | hypopharyngeal squamous cell carcinoma cell |
| BTO:0004548 | deep inguinal lymph node |
| BTO:0004549 | superficial inguinal lymph node |
| BTO:0004550 | proximal deep inguinal lymph node |
| BTO:0004551 | WT-100 cell |
| BTO:0004552 | Barrett's epithelial cell line |
| BTO:0004553 | E-18 rat primary hippocampal neuron |
| BTO:0004554 | parotid gland duct |
| BTO:0004555 | parotid gland duct epithelium |
| BTO:0004556 | submandibular gland duct |
| BTO:0004557 | submandibular gland duct epithelium |
| BTO:0004558 | sublingual gland duct |
| BTO:0004559 | sublingual gland duct epithelium |
| BTO:0004560 | thymic medulla |
| BTO:0004561 | thymic stromal cell |
| BTO:0004562 | thymic cortical epithelial cell |
| BTO:0004563 | thymic medullary epithelial cell |
| BTO:0004564 | thymic dendritic cell |
| BTO:0004565 | thymic medullary epithelium |
| BTO:0004566 | Rb-1 cell |
| BTO:0004567 | sessile serrated adenoma cell |
| BTO:0004568 | supportive connective tissue |
| BTO:0004569 | ovarian fluid |
| BTO:0004570 | ulcer tissue |
| BTO:0004571 | L3.3 cell |
| BTO:0004572 | HEP-G2/2.2.1 cell |
| BTO:0004573 | BOSC-23 cell |
| BTO:0004574 | dermal microvascular endothelial cell |
| BTO:0004575 | nephroblastoma cell |
| BTO:0004576 | smooth muscle cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------------|
| BTO:0004577 | aortic smooth muscle cell |
| BTO:0004578 | vascular smooth muscle cell |
| BTO:0004579 | parenchyma of thyroid gland |
| BTO:0004580 | 862L cell |
| BTO:0004581 | 10/9CRC1 cell |
| BTO:0004582 | A31N-ts20 cell |
| BTO:0004583 | A-704 cell |
| BTO:0004584 | acute nonlymphoblastic leukemia cell |
| BTO:0004585 | acute promyelocytic leukemia cell |
| BTO:0004586 | alevin |
| BTO:0004587 | AT6.1 cell |
| BTO:0004588 | BHY cell |
| BTO:0004589 | HN cell |
| BTO:0004590 | nasal epithelium cell line |
| BTO:0004591 | NHEC cell |
| BTO:0004592 | bone matrix |
| BTO:0004593 | epiblast |
| BTO:0004594 | CWR-22 cell |
| BTO:0004595 | D-407 cell |
| BTO:0004596 | garland cell |
| BTO:0004597 | nephrocyte |
| BTO:0004598 | TE-15 cell |
| BTO:0004599 | TE-13 cell |
| BTO:0004600 | TE-8 cell |
| BTO:0004601 | TE-1 cell |
| BTO:0004602 | human aortic endothelial cell |
| BTO:0004603 | HBE cell |
| BTO:0004604 | IEC-18 cell |
| BTO:0004605 | U-118MG cell |
| BTO:0004606 | MDCK-1 cell |
| BTO:0004607 | MDCK-2 cell |
| BTO:0004608 | Henles loop |
| BTO:0004609 | TALH cell |
| BTO:0004610 | Henles loop cell line |
| BTO:0004611 | SW-900 cell |
| BTO:0004612 | WM-793B cell |
| BTO:0004613 | sebocyte |
| BTO:0004614 | NOSE1 cell |
| BTO:0004615 | regulatory dendritic cell |
| BTO:0004616 | stria terminalis |
| BTO:0004617 | mucilage |
| BTO:0004618 | T-289 cell |
| BTO:0004619 | OCI-AML2 cell |
| BTO:0004620 | OCI-AML3 cell |
| BTO:0004621 | OCI-AML5 cell |
| BTO:0004622 | OCI-M1 cell |
| BTO:0004623 | OCI-M2 cell |
| BTO:0004624 | YN-1 cell |
| BTO:0004625 | plasmacytoid dendritic cell |
| BTO:0004626 | carotid artery endothelium |
| BTO:0004627 | carotid artery endothelial cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004628 | aortic valve |
| BTO:0004629 | metaphloem |
| BTO:0004630 | middle midgut |
| BTO:0004631 | glomerular endothelium |
| BTO:0004632 | glomerular endothelial cell |
| BTO:0004633 | invasive breast apocrine carcinoma cell |
| BTO:0004634 | thoracico-abdominal ganglion |
| BTO:0004635 | 29-13 cell |
| BTO:0004636 | urinary bladder endothelium |
| BTO:0004637 | urinary bladder endothelial cell |
| BTO:0004638 | peribronchial gland |
| BTO:0004639 | TT2 ES cell |
| BTO:0004640 | FD-2 cell |
| BTO:0004641 | tracheal cell line |
| BTO:0004642 | abductor |
| BTO:0004643 | culture condition:1-naphtoic acid-grown cell |
| BTO:0004644 | culture condition:acenaphthylene-grown cell |
| BTO:0004645 | culture condition:cocaine-grown cell |
| BTO:0004646 | culture condition:phenanthrene-grown cell |
| BTO:0004647 | culture condition:phosphonopyruvate-grown cell |
| BTO:0004648 | culture condition:sucrose-grown cell |
| BTO:0004649 | fin |
| BTO:0004650 | dorsal fin |
| BTO:0004651 | pelvic fin |
| BTO:0004652 | anal fin |
| BTO:0004653 | pectoral fin |
| BTO:0004654 | Tet21N cell |
| BTO:0004655 | SK-ChA-1 cell |
| BTO:0004656 | follicular lymphoma cell |
| BTO:0004657 | premonocyte |
| BTO:0004658 | imaginal disc |
| BTO:0004659 | exoskeleton |
| BTO:0004660 | human amniotic epithelial cell |
| BTO:0004661 | iliac artery endothelium |
| BTO:0004662 | iliac artery endothelial cell |
| BTO:0004663 | iliac artery endothelial cell line |
| BTO:0004664 | human iliac artery endothelial cell |
| BTO:0004665 | iliac artery |
| BTO:0004666 | external iliac artery |
| BTO:0004667 | internal iliac artery |
| BTO:0004668 | hand |
| BTO:0004669 | finger |
| BTO:0004670 | interdigit |
| BTO:0004671 | hair medulla |
| BTO:0004672 | hair shaft |
| BTO:0004673 | dorsal aorta |
| BTO:0004674 | ventral aorta |
| BTO:0004675 | regio occipitalis capitis |
| BTO:0004676 | cerebral peduncle |
| BTO:0004677 | basis pedunculi cerebri |
| BTO:0004678 | regio frontalis capitis |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004679 | capillary pericyte |
| BTO:0004680 | stratum basale |
| BTO:0004681 | bursa copulatrix |
| BTO:0004682 | genital atrium |
| BTO:0004683 | genital chamber |
| BTO:0004684 | genital pore |
| BTO:0004685 | bony labyrinth |
| BTO:0004686 | cochlear labyrinth |
| BTO:0004687 | orbit |
| BTO:0004688 | regio orbitalis |
| BTO:0004689 | external gill |
| BTO:0004690 | arterial system |
| BTO:0004691 | hippocampus minor |
| BTO:0004692 | venous system |
| BTO:0004693 | regio parietalis capitis |
| BTO:0004694 | rectal sac |
| BTO:0004695 | aortic root |
| BTO:0004696 | external carotid artery |
| BTO:0004697 | internal carotid artery |
| BTO:0004698 | regio oralis |
| BTO:0004699 | posterior pharynx |
| BTO:0004700 | anterior pharynx |
| BTO:0004701 | dorsal striatum |
| BTO:0004702 | ventral striatum |
| BTO:0004703 | striate cortex |
| BTO:0004704 | extrastriate cortex |
| BTO:0004705 | connecting stalk |
| BTO:0004706 | ankle joint |
| BTO:0004707 | hinge joint |
| BTO:0004708 | thyroid follicle |
| BTO:0004709 | thyroid primordium |
| BTO:0004710 | tunica interna bulbi |
| BTO:0004711 | head capsule |
| BTO:0004712 | parathyroid hormone secreting cell |
| BTO:0004713 | larval ventral ganglion |
| BTO:0004714 | palatine tonsil |
| BTO:0004715 | nasopharyngeal tonsil |
| BTO:0004716 | null cell |
| BTO:0004717 | large granular lymphocyte |
| BTO:0004718 | breast lobe |
| BTO:0004719 | excretory canal |
| BTO:0004720 | mural cell |
| BTO:0004721 | myeloid dendritic cell |
| BTO:0004722 | plasmacytoid T-lymphocyte |
| BTO:0004723 | lymphoid dendritic cell |
| BTO:0004724 | animal cap |
| BTO:0004725 | embryonic fibroblast |
| BTO:0004726 | embryonic brain |
| BTO:0004727 | larval brain |
| BTO:0004728 | rheumatoid arthritis disease specific synovial fluid |
| BTO:0004729 | peripheral blood lymphocyte |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------|
| BTO:0004730 | myeloid progenitor cell |
| BTO:0004731 | lymphoid progenitor cell |
| BTO:0004732 | bone marrow-derived macrophage |
| BTO:0004733 | gravid adult |
| BTO:0004734 | HBL-100 cell |
| BTO:0004735 | brainstem glioma cell |
| BTO:0004736 | B-CPAP cell |
| BTO:0004737 | AU-565 cell |
| BTO:0004738 | CFPAC-1 cell |
| BTO:0004739 | CGTH-W3 cell |
| BTO:0004740 | CGTH-W1 cell |
| BTO:0004741 | CGTH-W2 cell |
| BTO:0004742 | HCT-115 cell |
| BTO:0004743 | HCT-166 cell |
| BTO:0004744 | hair cell |
| BTO:0004745 | INA-6 cell |
| BTO:0004746 | cecum cancer cell line |
| BTO:0004747 | NCI-H716 cell |
| BTO:0004748 | metula |
| BTO:0004749 | phialide |
| BTO:0004750 | 129S6 cell |
| BTO:0004751 | 1C9 cell |
| BTO:0004752 | adipose-derived stromal cell |
| BTO:0004753 | XP-V XP30RO cell |
| BTO:0004754 | VERO-76 cell |
| BTO:0004755 | VERO C1008 cell |
| BTO:0004756 | venous endothelium |
| BTO:0004757 | arterial endothelium |
| BTO:0004758 | arterial endothelial cell |
| BTO:0004759 | venous endothelial cell |
| BTO:0004760 | TF-1 cell |
| BTO:0004761 | TF-1 BCR-ABL cell |
| BTO:0004762 | TSM1 cell |
| BTO:0004763 | V866 cell |
| BTO:0004764 | V400 cell |
| BTO:0004765 | UKE-1 cell |
| BTO:0004766 | SET-2 cell |
| BTO:0004767 | MB-02 cell |
| BTO:0004768 | MUTZ-8 cell |
| BTO:0004769 | teratocyte |
| BTO:0004770 | TAD-2 cell |
| BTO:0004771 | NPA cell |
| BTO:0004772 | WRO cell |
| BTO:0004773 | trophoblast stem cell line |
| BTO:0004774 | trophoblast stem cell |
| BTO:0004775 | SUP-M2 cell |
| BTO:0004776 | striatonigral neuron |
| BTO:0004777 | RSC96 cell |
| BTO:0004778 | medium spiny neuron |
| BTO:0004779 | soft tissue sarcoma cell |
| BTO:0004780 | soft tissue sarcoma cell line |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004781 | SK-RC-26B cell |
| BTO:0004782 | SK-N-BE(2)C cell |
| BTO:0004783 | SeAx cell |
| BTO:0004784 | HFF-1 cell |
| BTO:0004785 | Ewing's sarcoma family tumor cell line |
| BTO:0004786 | SCMC-ES1 cell |
| BTO:0004787 | SK-N-LO cell |
| BTO:0004788 | KP-EW-MS cell |
| BTO:0004789 | ruminal fluid |
| BTO:0004790 | hTERT-RPE1 cell |
| BTO:0004791 | root primordium |
| BTO:0004792 | RHEK-1 cell |
| BTO:0004793 | TC1 cell |
| BTO:0004794 | TC2 cell |
| BTO:0004795 | JHU-1 cell |
| BTO:0004796 | 253J cell |
| BTO:0004797 | accessory olfactory bulb |
| BTO:0004798 | accessory sex gland |
| BTO:0004799 | AILNCaP cell |
| BTO:0004800 | amnioserosa |
| BTO:0004801 | BC3A-C2 cell |
| BTO:0004802 | OCL-1 cell |
| BTO:0004803 | buccal epithelium |
| BTO:0004804 | buccal epithelial cell |
| BTO:0004805 | C666-1 cell |
| BTO:0004806 | CHO-91-47-67 cell |
| BTO:0004807 | CHO-91-22-47-67 cell |
| BTO:0004808 | CHO-91-22 cell |
| BTO:0004809 | CHO-91 cell |
| BTO:0004810 | CHO-22 cell |
| BTO:0004811 | Clara cell |
| BTO:0004812 | dermal dendritic cell |
| BTO:0004813 | DMS-114 cell |
| BTO:0004814 | DT-40 cell |
| BTO:0004815 | ER-1 cell |
| BTO:0004816 | ERpP cell |
| BTO:0004817 | extraradical hypha |
| BTO:0004818 | FOM71 cell |
| BTO:0004819 | FOM78 cell |
| BTO:0004820 | NHEM693 cell |
| BTO:0004821 | NHEM2493 cell |
| BTO:0004822 | germ tube |
| BTO:0004823 | NCI-H1355 cell |
| BTO:0004824 | NCI-H1975 cell |
| BTO:0004825 | NCI-H524 cell |
| BTO:0004826 | HFF2/T cell |
| BTO:0004827 | hFOB cell |
| BTO:0004828 | HGC-27 cell |
| BTO:0004829 | HOB-c cell |
| BTO:0004830 | epidermal cell line |
| BTO:0004831 | JB6 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004832 | L56Br-C1 cell |
| BTO:0004833 | large cell neuroendocrine carcinoma cell |
| BTO:0004834 | middle frontal gyrus |
| BTO:0004835 | inferior frontal gyrus |
| BTO:0004836 | superior frontal gyrus |
| BTO:0004837 | MRC5-SV cell |
| BTO:0004838 | muscular coat |
| BTO:0004839 | muscularis mucosa |
| BTO:0004840 | OCL-3 cell |
| BTO:0004841 | UCP-3 cell |
| BTO:0004842 | MyLa 2039 cell |
| BTO:0004843 | MyLa 2059 cell |
| BTO:0004844 | NG2 cell |
| BTO:0004845 | NHOst cell |
| BTO:0004846 | OCUT-1 cell |
| BTO:0004847 | ONCO-DG1 cell |
| BTO:0004848 | PaCa-44 cell |
| BTO:0004849 | pharyngeal gland |
| BTO:0004850 | bone marrow cell |
| BTO:0004851 | mammary ductal carcinoma cell |
| BTO:0004852 | OV-90 cell |
| BTO:0004853 | PC-3H cell |
| BTO:0004854 | PK-1 cell |
| BTO:0004855 | PK-8 cell |
| BTO:0004856 | pancreaticobiliary cancer cell |
| BTO:0004857 | ookinete |
| BTO:0004858 | ACT-1 cell |
| BTO:0004859 | Nthy-ori 3-1 cell |
| BTO:0004860 | GaMG cell |
| BTO:0004861 | spiral organ cell line |
| BTO:0004862 | HEI-OC1 cell |
| BTO:0004863 | HLCC cell |
| BTO:0004864 | HMC cell |
| BTO:0004865 | Human-7 cell |
| BTO:0004866 | LiM-6 cell |
| BTO:0004867 | Sup-M2-TS cell |
| BTO:0004868 | anaplastic large cell lymphoma cell line |
| BTO:0004869 | Mac-1 cell |
| BTO:0004870 | MOLT cell |
| BTO:0004871 | NB-39 cell |
| BTO:0004872 | NCR-EW2 cell |
| BTO:0004873 | UT-SCC-118 cell |
| BTO:0004874 | non-root-hair cell |
| BTO:0004875 | labellum |
| BTO:0004876 | distal tip |
| BTO:0004877 | distal tip cell |
| BTO:0004878 | enteric muscle |
| BTO:0004879 | Tu-132 cell |
| BTO:0004880 | Tu-113 cell |
| BTO:0004881 | parotid gland tumor cell |
| BTO:0004882 | ventral midbrain |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0004883 | cystadenocarcinoma cell line |
| BTO:0004884 | QZG cell |
| BTO:0004885 | OSA-344 cell |
| BTO:0004886 | PC-10 cell |
| BTO:0004887 | ACC-LC-319 cell |
| BTO:0004888 | TC-1 cell |
| BTO:0004889 | BM-314 cell |
| BTO:0004890 | CHCY-1 cell |
| BTO:0004891 | CH-27 cell |
| BTO:0004892 | SLT4 cell |
| BTO:0004893 | 253J laval cell |
| BTO:0004894 | 253J-BV cell |
| BTO:0004895 | NPC-TW01 cell |
| BTO:0004896 | IMEC cell |
| BTO:0004897 | CHO-LY-B cell |
| BTO:0004898 | HML-Gb3 cell |
| BTO:0004899 | HK-1 cell |
| BTO:0004900 | pulmonary venous myocardium |
| BTO:0004901 | non-neuronal cell |
| BTO:0004902 | cholinergic neuron |
| BTO:0004903 | plant crown |
| BTO:0004904 | hair follicle bulge |
| BTO:0004905 | hair follicle bulge stem cell |
| BTO:0004906 | molecular layer |
| BTO:0004907 | Bergmanns glia |
| BTO:0004908 | Bergmann fiber |
| BTO:0004909 | Purkinje layer |
| BTO:0004910 | retinal pigment epithelial cell |
| BTO:0004911 | erythroid progenitor cell |
| BTO:0004912 | culture condition:peptone-yeast extract-grown cell |
| BTO:0004913 | vastus medialis |
| BTO:0004914 | rheumatoid arthritis disease specific synovial fibroblast |
| BTO:0004915 | ZR-75-30 cell |
| BTO:0004916 | ZR-78 cell |
| BTO:0004917 | ZR-78.1 cell |
| BTO:0004918 | ZR-82 cell |
| BTO:0004919 | ZR-75 cell |
| BTO:0004920 | WSS-1 cell |
| BTO:0004921 | swine testicular cell line |
| BTO:0004922 | TAOV cell |
| BTO:0004923 | NOS-2 cell |
| BTO:0004924 | NOS-4 cell |
| BTO:0004925 | HRA cell |
| BTO:0004926 | THP-6 cell |
| BTO:0004927 | THP-8 cell |
| BTO:0004928 | SUM-159PT cell |
| BTO:0004929 | RMG-II cell |
| BTO:0004930 | RMG-I cell |
| BTO:0004931 | NPD-1 cell |
| BTO:0004932 | RCC-10 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0004933 | NALM-17 cell |
| BTO:0004934 | NALM-20 cell |
| BTO:0004935 | NALM-24 cell |
| BTO:0004936 | NALM-26 cell |
| BTO:0004937 | KOCL-33 cell |
| BTO:0004938 | KOCL-44 cell |
| BTO:0004939 | KOCL-45 cell |
| BTO:0004940 | KOCL-58 cell |
| BTO:0004941 | KOCL-69 cell |
| BTO:0004942 | HAL-01 cell |
| BTO:0004943 | KOPN-41 cell |
| BTO:0004944 | KOPN-1 cell |
| BTO:0004945 | LC4-1 cell |
| BTO:0004946 | UTP-L5 cell |
| BTO:0004947 | UTP-L10 cell |
| BTO:0004948 | UTP-2 cell |
| BTO:0004949 | SCMC-L10 cell |
| BTO:0004950 | BV173 cell |
| BTO:0004951 | NALL-1 cell |
| BTO:0004952 | MV-522 cell |
| BTO:0004953 | MGC-803 cell |
| BTO:0004954 | capillary endothelium |
| BTO:0004955 | MDA-B02 cell |
| BTO:0004956 | capillary endothelial cell |
| BTO:0004957 | hydathode |
| BTO:0004958 | F9-12 cell |
| BTO:0004959 | C4-2B cell |
| BTO:0004960 | CMK-86 cell |
| BTO:0004961 | acute megakaryoblastic leukemia cell line |
| BTO:0004962 | acute megakaryocytic leukemia cell |
| BTO:0004963 | acute megakaryoblastic leukemia cell |
| BTO:0004964 | KOPT-K1 cell |
| BTO:0004965 | TTA-1 cell |
| BTO:0004966 | Rat-1/BB16 cell |
| BTO:0004967 | Rat-1/tsLA29 cell |
| BTO:0004968 | NS-0 cell |
| BTO:0004969 | KOC-5C cell |
| BTO:0004970 | KOC-7C cell |
| BTO:0004971 | 1BR3.G cell |
| BTO:0004972 | KM-H2 cell |
| BTO:0004973 | Hodgkin lymphoma cell line |
| BTO:0004974 | Hodgkin lymphoma cell |
| BTO:0004975 | embryogenic cell line |
| BTO:0004976 | tongue cancer cell |
| BTO:0004977 | nasal lavage fluid |
| BTO:0004978 | carotid sinus nerve |
| BTO:0004979 | glossopharyngeal nerve |
| BTO:0004980 | uveal melanoma cell |
| BTO:0004981 | KARPAS-422 cell |
| BTO:0004982 | gonocyte |
| BTO:0004983 | MA-104 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0004984 | alate adult |
| BTO:0004985 | angioblast |
| BTO:0004986 | SNU-5 cell |
| BTO:0004987 | SNU-16 cell |
| BTO:0004988 | SNU-216 cell |
| BTO:0004989 | monospore |
| BTO:0004990 | UM-UC-9 cell |
| BTO:0004991 | UM-UC-14 cell |
| BTO:0004992 | UM-UC-10 cell |
| BTO:0004993 | UM-UC-5 cell |
| BTO:0004994 | SK-MEL-110 cell |
| BTO:0004995 | osphradium |
| BTO:0004996 | myelinating Schwann cell |
| BTO:0004997 | non-myelinating Schwann cell |
| BTO:0004998 | gingival epithelium |
| BTO:0004999 | vaginal smooth muscle |
| BTO:0005000 | clitoral smooth muscle |
| BTO:0005001 | retinal microvascular endothelial cell |
| BTO:0005002 | pulmonary microvascular endothelial cell |
| BTO:0005003 | villous trophoblast |
| BTO:0005004 | UROtsa cell |
| BTO:0005005 | FEPD cell |
| BTO:0005006 | 253J-P cell |
| BTO:0005007 | psammomatous meningioma cell |
| BTO:0005008 | psammoma body |
| BTO:0005009 | stratum intermedium |
| BTO:0005010 | meningotheelial meningioma cell |
| BTO:0005011 | 1205-Lu cell |
| BTO:0005012 | 46BR.1G1 cell |
| BTO:0005013 | 46BRLigl cell |
| BTO:0005014 | B-cell leukemia cell |
| BTO:0005015 | ASTC-a-1 cell |
| BTO:0005016 | breast hyperplasia cell |
| BTO:0005017 | usual ductal hyperplasia cell |
| BTO:0005018 | atypical ductal hyperplasia cell |
| BTO:0005019 | AX-2 cell |
| BTO:0005020 | cytotrophoblast cell line |
| BTO:0005021 | B6Tert-1 cell |
| BTO:0005022 | CAMA-1 cell |
| BTO:0005023 | cEND cell |
| BTO:0005024 | gastrointestinal smooth muscle |
| BTO:0005025 | HEK-293-TrkB cell |
| BTO:0005026 | HTOXAR-3 cell |
| BTO:0005027 | GM-3299 cell |
| BTO:0005028 | GM-4408 cell |
| BTO:0005029 | HEK-293FT cell |
| BTO:0005030 | HeLa-229 cell |
| BTO:0005031 | KR-4 cell |
| BTO:0005032 | CW-2 cell |
| BTO:0005033 | MV3 cell |
| BTO:0005034 | DT-40 3KO cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0005035 | Fanconi anemia disease specific cell type |
| BTO:0005036 | Fanconi anemia lymphoid cell line |
| BTO:0005037 | HEI-193 cell |
| BTO:0005038 | HeLa-LTRHIV-1-Luc cell |
| BTO:0005039 | HN-30 cell |
| BTO:0005040 | HN-12 cell |
| BTO:0005041 | HT-168 cell |
| BTO:0005042 | WM-983/B cell |
| BTO:0005043 | M1 melanoma cell |
| BTO:0005044 | LNCaP-17 cell |
| BTO:0005045 | LNCaP-34 cell |
| BTO:0005046 | LHCN-M2 cell |
| BTO:0005047 | MGSO-3 cell |
| BTO:0005048 | MACL-1 cell |
| BTO:0005049 | prostate adenocarcinoma cell line |
| BTO:0005050 | MDA-PCa-2b cell |
| BTO:0005051 | L87/4 cell |
| BTO:0005052 | L88/5 cell |
| BTO:0005053 | midgut epithelium |
| BTO:0005054 | macrophage foam cell |
| BTO:0005055 | scale |
| BTO:0005056 | J7 hepatoma cell |
| BTO:0005057 | J5 hepatoma cell |
| BTO:0005058 | SU-DHL-1 cell |
| BTO:0005059 | TZM-bl cell |
| BTO:0005060 | UACC-903 cell |
| BTO:0005061 | PC-12K cell |
| BTO:0005062 | M93-047 cell |
| BTO:0005063 | UACC-647 cell |
| BTO:0005064 | UACC-1273EV cell |
| BTO:0005065 | Swiss-3T3 cell |
| BTO:0005066 | MRC-5V1 cell |
| BTO:0005067 | PAM212 cell |
| BTO:0005068 | SK-CO15 cell |
| BTO:0005069 | Me665/2/21 cell |
| BTO:0005070 | Me665/2/60 cell |
| BTO:0005071 | PC3-MM2 cell |
| BTO:0005072 | NB5 cell |
| BTO:0005073 | NB14 cell |
| BTO:0005074 | M9A cell |
| BTO:0005075 | NT2-Rho0 cell |
| BTO:0005076 | KG-1A cell |
| BTO:0005077 | LL24 cell |
| BTO:0005078 | foot sole |
| BTO:0005079 | KLE cell |
| BTO:0005080 | LLC-WRC 256 cell |
| BTO:0005081 | periurethral tissue |
| BTO:0005082 | skin mucus |
| BTO:0005083 | plant mucous cell |
| BTO:0005084 | vocal fold |
| BTO:0005085 | common penile artery |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0005086 | arteria profunda penis |
| BTO:0005087 | arteria bulbi penis |
| BTO:0005088 | arteria dorsalis penis |
| BTO:0005089 | perichondrium |
| BTO:0005090 | inner chondrogenic layer of perichondrium |
| BTO:0005091 | outer fibrous layer of perichondrium |
| BTO:0005092 | chondrogenic cell |
| BTO:0005093 | intercalated cell |
| BTO:0005094 | leaf sheath |
| BTO:0005095 | H4-C99 cell |
| BTO:0005096 | epithelial stem cell |
| BTO:0005097 | skin stem cell |
| BTO:0005098 | epidermal stem cell |
| BTO:0005099 | follicular stem cell |
| BTO:0005100 | implantation fossa |
| BTO:0005101 | coronary artery smooth muscle cell |
| BTO:0005102 | SCC-15 cell |
| BTO:0005103 | NB-1 cell |
| BTO:0005104 | culture condition:2-sulfoacetate-grown cell |
| BTO:0005105 | culture condition:ammonium-grown cell |
| BTO:0005106 | culture condition:ethylbenzene-grown cell |
| BTO:0005107 | culture condition:gellan-grown cell |
| BTO:0005108 | culture condition:pyrrole-2-carboxylate-grown cell |
| BTO:0005109 | saphenous vein endothelial cell |
| BTO:0005110 | ameloblastoma cell |
| BTO:0005111 | HaCaT II-4 cell |
| BTO:0005112 | TRAMP-C1 cell |
| BTO:0005113 | TRAMP-C3 cell |
| BTO:0005114 | TRAMP-C2 cell |
| BTO:0005115 | salivary duct |
| BTO:0005116 | salivary duct cancer cell |
| BTO:0005117 | retinal ganglion cell line |
| BTO:0005118 | RGC-5 cell |
| BTO:0005119 | pleural mesothelioma cell |
| BTO:0005120 | neuroectodermal tumor cell |
| BTO:0005121 | PC3-B1 cell |
| BTO:0005122 | ovarian cyst |
| BTO:0005123 | ovarian cyst fluid |
| BTO:0005124 | platysma muscle |
| BTO:0005125 | sternocleidomastoid muscle |
| BTO:0005126 | Myc-CaP cell |
| BTO:0005127 | MCF-10A neoT cell |
| BTO:0005128 | M12 prostate cancer cell |
| BTO:0005129 | A2780/S cell |
| BTO:0005130 | A2780/R cell |
| BTO:0005131 | conjunctival epithelium |
| BTO:0005132 | arrector pili muscle |
| BTO:0005133 | CCD-986Sk cell |
| BTO:0005134 | adenomatoid odontogenic tumor cell |
| BTO:0005135 | D-283MED cell |
| BTO:0005136 | ES-E14 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0005137 | RST-307 cell |
| BTO:0005138 | MTC-1 cell |
| BTO:0005139 | HEp-3 cell |
| BTO:0005140 | H273 cell |
| BTO:0005141 | rheumatoid arthritis disease specific giant cell |
| BTO:0005142 | ameloblastic layer |
| BTO:0005143 | OCUT-2 cell |
| BTO:0005144 | KTC-1 cell |
| BTO:0005145 | chorionic epithelium |
| BTO:0005146 | HTh-7 cell |
| BTO:0005147 | HTh-74 cell |
| BTO:0005148 | HTh-83 cell |
| BTO:0005149 | C-643 cell |
| BTO:0005150 | anococcygeus muscle |
| BTO:0005151 | anterior horn |
| BTO:0005152 | A2780/CDDP cell |
| BTO:0005153 | CEM-VBL10 cell |
| BTO:0005154 | CEM-VBL16 cell |
| BTO:0005155 | CEM-VBL100 cell |
| BTO:0005156 | Caco-2/BBe cell |
| BTO:0005157 | juxtaglomerular apparatus |
| BTO:0005158 | juxtaglomerular cell |
| BTO:0005159 | extraglomerular mesangial cell |
| BTO:0005160 | oil gland |
| BTO:0005161 | KAT-18 cell |
| BTO:0005162 | FB-1 cell |
| BTO:0005163 | COLO-16 cell |
| BTO:0005164 | HKESC-1 cell |
| BTO:0005165 | HKESC-2 cell |
| BTO:0005166 | HKESC-3 cell |
| BTO:0005167 | HSC-1 cell |
| BTO:0005168 | JJ012 cell |
| BTO:0005169 | human cardiac microvascular endothelial cell |
| BTO:0005170 | keratocyte |
| BTO:0005171 | SNU-620 cell |
| BTO:0005172 | MDA-MB-231-Luc2 cell |
| BTO:0005173 | UMR-106-01 cell |
| BTO:0005174 | Mel120 cell |
| BTO:0005175 | Panc-02 cell |
| BTO:0005176 | L-540 cell |
| BTO:0005177 | BCWM.1 cell |
| BTO:0005178 | PWR-1E cell |
| BTO:0005179 | PSN-1 cell |
| BTO:0005180 | pterygium |
| BTO:0005181 | RzM6-LC cell |
| BTO:0005182 | TOV-112D cell |
| BTO:0005183 | TOV-21G cell |
| BTO:0005184 | SVGp12 cell |
| BTO:0005185 | chondroma cell |
| BTO:0005186 | H4-APP751 cell |
| BTO:0005187 | TTE-1 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0005188 | trunk kidney |
| BTO:0005189 | head kidney |
| BTO:0005190 | sarcomatoid carcinoma cell |
| BTO:0005191 | Patu-8988 cell |
| BTO:0005192 | MCF-7/adr cell |
| BTO:0005193 | H4TG cell |
| BTO:0005194 | fine root |
| BTO:0005195 | K-562/R7 cell |
| BTO:0005196 | KBv200 cell |
| BTO:0005197 | peltate gland |
| BTO:0005198 | adipose-derived stem cell |
| BTO:0005199 | CEM-ADR5000 cell |
| BTO:0005200 | brain microvessel endothelial cell |
| BTO:0005201 | brain endothelial cell |
| BTO:0005202 | bulbil |
| BTO:0005203 | gingival cancer cell line |
| BTO:0005204 | Ca9-22 cell |
| BTO:0005205 | cerebral artery |
| BTO:0005206 | middle cerebral artery |
| BTO:0005207 | left middle cerebral artery |
| BTO:0005208 | right middle cerebral artery |
| BTO:0005209 | culture condition:isophthalate-grown cell |
| BTO:0005210 | syntrophic cell culture |
| BTO:0005211 | choriodecidua |
| BTO:0005212 | cervical intraepithelial neoplasia cell |
| BTO:0005213 | circular smooth muscle |
| BTO:0005214 | longitudinal smooth muscle |
| BTO:0005215 | KB-C2 cell |
| BTO:0005216 | keratocyst |
| BTO:0005217 | LNGK-9 PCa cell |
| BTO:0005218 | MC57 cell |
| BTO:0005219 | osteophyte |
| BTO:0005220 | PC-3M cell |
| BTO:0005221 | PC-3M-LN4 cell |
| BTO:0005222 | PC-3M-Pro4 cell |
| BTO:0005223 | Drosophila D17 cell |
| BTO:0005224 | hFOB 1.19 cell |
| BTO:0005225 | CHO-CUR3 cell |
| BTO:0005226 | medial pterygoid muscle |
| BTO:0005227 | XC cell |
| BTO:0005228 | YT cell |
| BTO:0005229 | XC-v cell |
| BTO:0005230 | stem juice |
| BTO:0005231 | culture condition:D-glucose-grown cell |
| BTO:0005232 | culture condition:n-decane-grown cell |
| BTO:0005233 | culture condition:dextrose-grown cell |
| BTO:0005234 | culture condition:D-glucose-L-asparagine-grown cell |
| BTO:0005235 | culture condition:L-asparagine-grown cell |
| BTO:0005236 | culture condition:salicylate-grown cell |
| BTO:0005237 | culture condition:sulfolactate-grown cell |
| BTO:0005238 | T-Rex 293 cell |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--------------------------------------|
| BTO:0005239 | renal tubule epithelium |
| BTO:0005240 | pharyngeal epithelium |
| BTO:0005241 | MSK-Leuk1 cell |
| BTO:0005242 | MLE-15 cell |
| BTO:0005243 | NCI-H1650 cell |
| BTO:0005244 | culture condition:CD19+ cell |
| BTO:0005245 | culture condition:CD31+ cell |
| BTO:0005246 | culture condition:CD31- cell |
| BTO:0005247 | culture condition:CD103+ |
| BTO:0005248 | M-07E cell |
| BTO:0005249 | M-07 cell |
| BTO:0005250 | CNE-2 cell |
| BTO:0005251 | ink sac |
| BTO:0005252 | 36B-10 cell |
| BTO:0005253 | CHP-100 cell |
| BTO:0005254 | CHP-126 cell |
| BTO:0005255 | RPMI-1788 cell |
| BTO:0005256 | W001C cell |
| BTO:0005257 | oropharynx |
| BTO:0005258 | oropharyngeal cancer cell |
| BTO:0005259 | oropharyngeal carcinoma cell line |
| BTO:0005260 | MGL-8 cell |
| BTO:0005261 | B-lymphoblast cell line |
| BTO:0005262 | NEF cell |
| BTO:0005263 | HER 14 cell |
| BTO:0005264 | mucoepidermoid carcinoma cell |
| BTO:0005265 | nonparenchymal liver cell |
| BTO:0005266 | cirrhosis disease specific cell type |
| BTO:0005267 | 293-F FreeStyle cell |
| BTO:0005268 | neuropil |
| BTO:0005269 | antennal lobe |
| BTO:0005270 | HAoAF cell |
| BTO:0005271 | anterior hypodermis |
| BTO:0005272 | radical leaf |
| BTO:0005273 | adventitious root |
| BTO:0005274 | adventitious root culture |
| BTO:0005275 | HPK1A-ras cell |
| BTO:0005276 | HPK1A cell |
| BTO:0005277 | CAG cell |
| BTO:0005278 | cestode |
| BTO:0005279 | Caco-2/15 cell |
| BTO:0005280 | culture condition:oxalate-grown cell |
| BTO:0005281 | intercostal muscle |
| BTO:0005282 | WEHI-3B cell |
| BTO:0005283 | TS-20 cell |
| BTO:0005284 | UML-49 cell |
| BTO:0005285 | NPD-2 cell |
| BTO:0005286 | 13-90 cell |
| BTO:0005287 | 2102Ep cell |
| BTO:0005288 | CL-48 cell |
| BTO:0005289 | Col-2 cell |

Continued on next page

Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---|
| BTO:0005290 | TE 353.Sk cell |
| BTO:0005291 | culture condition:yeast extract-grown cell |
| BTO:0005292 | NCI-H1155 cell |
| BTO:0005293 | NCI-H2347 cell |
| BTO:0005294 | NCI-H647 cell |
| BTO:0005295 | HCC-38 cell |
| BTO:0005296 | KBH5.0 cell |
| BTO:0005297 | MEG-01S cell |
| BTO:0005298 | MUM-2B cell |
| BTO:0005299 | MUM-2C cell |
| BTO:0005300 | muscle stem cell |
| BTO:0005301 | NPrEC cell |
| BTO:0005302 | GI-102 cell |
| BTO:0005303 | AS-8 cell |
| BTO:0005304 | culture condition:rice straw-grown cell |
| BTO:0005305 | corn ear |
| BTO:0005306 | culture condition:wine-grown cell |
| BTO:0005307 | UAMS-32 cell |
| BTO:0005308 | A-716 cell |
| BTO:0005309 | mTOP2beta-4 cell |
| BTO:0005310 | mTOP2beta-5 cell |
| BTO:0005311 | SF-xL cell |
| BTO:0005312 | amoeba |
| BTO:0005313 | nerve sheath |
| BTO:0005314 | nerve sheath cancer cell |
| BTO:0005315 | peripheral nerve sheath cancer cell |
| BTO:0005316 | malignant peripheral nerve sheath cancer cell |
| BTO:0005317 | CBRH-7919 cell |
| BTO:0005318 | cerebrovascular cell |
| BTO:0005319 | embryonic germ cell |
| BTO:0005320 | MIN6-N8 cell |
| BTO:0005321 | B6SUtA1 cell |
| BTO:0005322 | chronic myelogenous leukemia progenitor cell |
| BTO:0005323 | culture condition:1-hydroxy-2-naphthoic acid-grown cell |
| BTO:0005324 | culture condition:chrysene-grown cell |
| BTO:0005325 | culture condition:methanesulfonylmethane-grown cell |
| BTO:0005326 | culture condition:lactose-grown cell |
| BTO:0005327 | culture condition:malate-grown cell |
| BTO:0005328 | culture condition:methylamine-grown cell |
| BTO:0005329 | culture condition:nitrate-grown cell |
| BTO:0005330 | culture condition:salicylic acid-grown cell |
| BTO:0005331 | culture condition:sulfur-grown cell |
| BTO:0005332 | RWLeu-4 cell |
| BTO:0005333 | SK-MEL-23 cell |
| BTO:0005334 | UKRV-Mel-4 cell |
| BTO:0005335 | UKRV-Mel-2 cell |
| BTO:0005336 | Ma-Mel-01 cell |
| BTO:0005337 | Ma-Mel-04 cell |
| BTO:0005338 | Ma-Mel-05 cell |
| BTO:0005339 | Ma-Mel-11 cell |

Continued on next page

Table A.4.1 – continued from previous page

| Key | Description |
|-------------|------------------------|
| BTO:0005340 | Ma-Mel-12 cell |
| BTO:0005341 | Ma-Mel-17 cell |
| BTO:0005342 | Ma-Mel-19 cell |
| BTO:0005343 | Ma-Mel-37b cell |
| BTO:0005344 | Ma-Mel-42b cell |
| BTO:0005345 | Ma-Mel-47 cell |
| BTO:0005346 | Ma-Mel-52 cell |
| BTO:0005347 | UKRV-Mel-06a cell |
| BTO:0005348 | UKRV-Mel-21a cell |
| BTO:0005349 | UKRV-Mel-27 cell |
| BTO:0005350 | UKRV-Mel-31 cell |
| BTO:0005351 | optic cup |
| BTO:0005352 | 1-LN cell |
| BTO:0005353 | Abrams cell |
| BTO:0005354 | D17 cell |
| BTO:0005355 | Grey cell |
| BTO:0005356 | Hughes cell |
| BTO:0005357 | Ingles cell |
| BTO:0005358 | Jarques cell |
| BTO:0005359 | Marisco cell |
| BTO:0005360 | ALL-SIL cell |
| BTO:0005361 | amphidial gland |
| BTO:0005362 | trophoblast giant cell |
| BTO:0005363 | COS-31 cell |
| BTO:0005364 | D-54MG cell |
| BTO:0005365 | ECC-1 cell |
| BTO:0005366 | NCI-H526 cell |
| BTO:0005367 | H-69AR cell |
| BTO:0005368 | HCC-1954 cell |
| BTO:0005369 | HMPOS cell |
| BTO:0005370 | CCRF-HSB-2 cell |
| BTO:0005371 | hymenium |
| BTO:0005372 | SK-N-MC-IXC cell |
| BTO:0005373 | oil secretion |
| BTO:0005374 | OKF-6 cell |
| BTO:0005375 | oral cell line |
| BTO:0005376 | P-93AF cell |
| BTO:0005377 | RD cell |
| BTO:0005378 | Rh-1 cell |
| BTO:0005379 | Rh-30 cell |
| BTO:0005380 | Rh-18 cell |
| BTO:0005381 | Rh-4 cell |
| BTO:0005382 | Rh-5 cell |
| BTO:0005383 | Rh-3 cell |
| BTO:0005384 | Rh-28 cell |
| BTO:0005385 | root quiescent center |
| BTO:0005386 | U-1752 cell |
| BTO:0005387 | SUM-102 cell |
| BTO:0005388 | SUM-149 cell |
| BTO:0005389 | SUM-44 cell |
| BTO:0005390 | SUM-52 cell |

Continued on next page

Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0005391 | SUM-225 cell |
| BTO:0005392 | SUM-229 cell |
| BTO:0005393 | SUM-190 cell |
| BTO:0005394 | SUM-185 cell |
| BTO:0005395 | 58CrPM cell |
| BTO:0005396 | SKMG cell |
| BTO:0005397 | SH-EP cell |
| BTO:0005398 | PaTuO-2 cell |
| BTO:0005399 | POS cell |
| BTO:0005400 | BPH cell |
| BTO:0005401 | junctional zone |
| BTO:0005402 | spongiotrophoblast |
| BTO:0005403 | glycogen cell |
| BTO:0005404 | labyrinthine zone |
| BTO:0005405 | velum |
| BTO:0005406 | terminal ampoule |
| BTO:0005407 | culture condition:4-methylsalicylate-grown cell |
| BTO:0005408 | culture condition:5-methylsalicylate-grown cell |
| BTO:0005409 | culture condition:5-chlorosalicylate-grown cell |
| BTO:0005410 | culture condition:monomethylamine-grown cell |
| BTO:0005411 | culture condition:tetramethylammonium-grown cell |
| BTO:0005412 | culture condition:trimethylamine-grown cell |
| BTO:0005413 | culture condition:urea-grown cell |
| BTO:0005414 | fibrocarcinoma cell |
| BTO:0005415 | gastroduodenal mucosa |
| BTO:0005416 | MNNG/HOS cell |
| BTO:0005417 | parietal trophoblast giant cell |
| BTO:0005418 | plant oil gland |
| BTO:0005419 | sinusoidal trophoblast giant cell |
| BTO:0005420 | canal trophoblast giant cell |
| BTO:0005421 | spiral-associated trophoblast giant cell |
| BTO:0005422 | culture condition:(+)-camphor-grown cell |
| BTO:0005423 | MDCK-MDR1 cell |
| BTO:0005424 | melan-a Hm cell |
| BTO:0005425 | NCI-H2170 cell |
| BTO:0005426 | NB-69 cell |
| BTO:0005427 | NW-1539 cell |
| BTO:0005428 | NW-624 cell |
| BTO:0005429 | PLHC-1/dox cell |
| BTO:0005430 | STKM-1 cell |
| BTO:0005431 | Vgamma9Vdelta2 T-lymphocyte |
| BTO:0005432 | Bm3-c2 cell |
| BTO:0005433 | culture condition:4-nitrophenol-grown cell |
| BTO:0005434 | culture condition:L-alanine-grown cell |
| BTO:0005435 | culture condition:succinate-glucose-grown cell |
| BTO:0005436 | panicle |
| BTO:0005437 | mammary luminal epithelial cell |
| BTO:0005438 | HO-8910 cell |
| BTO:0005439 | Lu-134-B cell |
| BTO:0005440 | PC-7 cell |
| BTO:0005441 | lateral root |

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Table A.4.1 – continued from previous page

| Key | Description |
|-------------|---------------------------------|
| BTO:0005442 | SBC-1 cell |
| BTO:0005443 | STKM-2 cell |
| BTO:0005444 | root nodule primordium |
| BTO:0005445 | rectal epithelium |
| BTO:0005446 | plant septum |
| BTO:0005447 | VMM39 cell |
| BTO:0005448 | ARL-15C1 cell |
| BTO:0005449 | ARL-16T2 cell |
| BTO:0005450 | B-12 cell |
| BTO:0005451 | C32-TG cell |
| BTO:0005452 | C6/36 cell |
| BTO:0005453 | culture condition:CD4+ cell |
| BTO:0005454 | corpus cavernosum |
| BTO:0005455 | cotyledonary node |
| BTO:0005456 | FM-516-SV cell |
| BTO:0005457 | foreskin melanocyte cell line |
| BTO:0005458 | NCE-G55T2 cell |
| BTO:0005459 | GP-202 cell |
| BTO:0005460 | HaEpi cell |
| BTO:0005461 | HBE135-E6E7 cell |
| BTO:0005462 | hemolymph vessel |
| BTO:0005463 | Huh-7.5.1 cell |
| BTO:0005464 | IME cell |
| BTO:0005465 | intercalary meristem |
| BTO:0005466 | IPA-220 cell |
| BTO:0005467 | KKU-M139 cell |
| BTO:0005468 | labial palp |
| BTO:0005469 | RPK-9 cell |
| BTO:0005470 | RPK-1 cell |
| BTO:0005471 | RPK-59 cell |
| BTO:0005472 | RTG-2 cell |
| BTO:0005473 | RTG-P1 cell |
| BTO:0005474 | SOB-15 cell |
| BTO:0005475 | SUM-149PT cell |
| BTO:0005476 | SUM-185PE cell |
| BTO:0005477 | SUM-190PT cell |
| BTO:0005478 | SUM-225CWN cell |
| BTO:0005479 | SUM-229PE cell |
| BTO:0005480 | WM-278 cell |
| BTO:0005481 | foreskin keratinocyte cell line |
| BTO:0005482 | 38E6E7HFK cell |
| BTO:0005483 | molluscan catch muscle |
| BTO:0005484 | DLD-1/alpha-cat cell |
| BTO:0005485 | MC-3T3 cell |
| BTO:0005486 | PK-9 cell |
| BTO:0005487 | PK-59 cell |
| BTO:0005488 | osteocyte cell line |
| BTO:0005489 | MLO-Y4 cell |
| BTO:0005490 | MM-1 cell |
| BTO:0005491 | MO-91 cell |
| BTO:0005492 | MT-2 cell |

Continued on next page

Table A.4.1 – continued from previous page

| Key | Description |
|-------------|--|
| BTO:0005493 | Mv1Lu cell |
| BTO:0005494 | N-1511 cell |
| BTO:0005495 | NC-37 cell |
| BTO:0005496 | NHEM-neo cell |
| BTO:0005497 | nucleus pulposus cell line |
| BTO:0005498 | HNPC cell |
| BTO:0005499 | NYH cell |
| BTO:0005500 | QGP-1 cell |
| BTO:0005501 | SW-2 cell |
| BTO:0005502 | Panc1-bC2GnT-M cell |
| BTO:0005503 | corpus cavernosum smooth muscle |
| BTO:0005504 | fungus sporangium |
| BTO:0005505 | fungus sporangiophore |
| BTO:0005506 | culture condition:H2-grown cell |
| BTO:0005507 | culture condition:H2/sulfate-grown cell |
| BTO:0005508 | culture condition:ferric citrate-grown cell |
| BTO:0005509 | culture condition:2-aminophenol-grown cell |
| BTO:0005510 | culture condition:2-phenylethanol-grown cell |
| BTO:0005511 | embryonic carcinoma cell |
| BTO:0005512 | basal node |
| BTO:0005513 | cercaria |
| BTO:0005514 | gonadal sheath cell |
| BTO:0005515 | leaf vein |
| BTO:0005516 | wood |
| BTO:0005517 | lyophilized cell |
| BTO:0005518 | PC-9 cell |
| BTO:0005519 | spermathecal-uterine valve |
| BTO:0005520 | uterine seam cell |
| BTO:0005521 | GM0536 cell |
| BTO:0005522 | plant epidermal cell |
| BTO:0005523 | culture condition:anaerobic and sulfate-thiosulfate-lactate-grown cell |
| BTO:0005524 | plant lip |
| BTO:0005525 | plant primordium |
| BTO:0005526 | axillary bud primordium |
| BTO:0005527 | lateral root primordium |
| BTO:0005528 | plant secretory cell |
| BTO:0005529 | plant hair |
| BTO:0005530 | plant glandular hair |
| BTO:0005531 | plant scale |
| BTO:0005532 | plant zygote |
| BTO:0005533 | fungus primordium |

(See it at <http://www.obofoundry.org/cgi-bin/detail.cgi?id=brenda>)

A.5 ISO 3166-1, ISO 3166-2 and UN M.49

This controlled vocabulary has 5096 terms and 33 aliases

<![CDATA[ISO 3166 is the International Standard for country codes and codes for their subdivisions. The purpose of ISO 3166 is to establish internationally recognised codes for the representation of names of countries, territories or areas of geographical interest, and their subdivisions. A complementary classification,

related to ISO 3166 is UN M.49 (Standard Country and Area Codes Classifications)]>

Table A.5.1: ISO 3166-1, ISO 3166-2 and UN M.49

| Key | Description |
|-----|----------------------------------|
| AF | Afghanistan |
| AX | Åland Islands |
| AL | Albania |
| DZ | Algeria |
| AS | American Samoa |
| AD | Andorra |
| AO | Angola |
| AI | Anguilla |
| AQ | Antarctica |
| AG | Antigua and Barbuda |
| AR | Argentina |
| AM | Armenia |
| AW | Aruba |
| AU | Australia |
| AT | Austria |
| AZ | Azerbaijan |
| BS | Bahamas |
| BH | Bahrain |
| BD | Bangladesh |
| BB | Barbados |
| BY | Belarus |
| BE | Belgium |
| BZ | Belize |
| BJ | Benin |
| BM | Bermuda |
| BT | Bhutan |
| BO | Bolivia, Plurinational State of |
| BQ | Bonaire, Sint Eustatius and Saba |
| BA | Bosnia and Herzegovina |
| BW | Botswana |
| BV | Bouvet Island |
| BR | Brazil |
| IO | British Indian Ocean Territory |
| BN | Brunei Darussalam |
| BG | Bulgaria |
| BF | Burkina Faso |
| BI | Burundi |
| KH | Cambodia |
| CM | Cameroon |
| CA | Canada |
| CV | Cape Verde |
| KY | Cayman Islands |
| CF | Central African Republic |
| TD | Chad |
| CL | Chile |
| CN | China |
| CX | Christmas Island |
| CC | Cocos (Keeling) Islands |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-----|---------------------------------------|
| CO | Colombia |
| KM | Comoros |
| CG | Congo |
| CD | Congo, The Democratic Republic of the |
| CK | Cook Islands |
| CR | Costa Rica |
| CI | Côte d'Ivoire |
| HR | Croatia |
| CU | Cuba |
| CW | Curaçao |
| CY | Cyprus |
| CZ | Czech Republic |
| DK | Denmark |
| DJ | Djibouti |
| DM | Dominica |
| DO | Dominican Republic |
| EC | Ecuador |
| EG | Egypt |
| SV | El Salvador |
| GQ | Equatorial Guinea |
| ER | Eritrea |
| EE | Estonia |
| ET | Ethiopia |
| FK | Falkland Islands (Malvinas) |
| FO | Faroe Islands |
| FJ | Fiji |
| FI | Finland |
| FR | France |
| GF | French Guiana |
| PF | French Polynesia |
| TF | French Southern Territories |
| GA | Gabon |
| GM | Gambia |
| GE | Georgia |
| DE | Germany |
| GH | Ghana |
| GI | Gibraltar |
| GR | Greece |
| GL | Greenland |
| GD | Grenada |
| GP | Guadeloupe |
| GU | Guam |
| GT | Guatemala |
| GG | Guernsey |
| GN | Guinea |
| GW | Guinea-Bissau |
| GY | Guyana |
| HT | Haiti |
| HM | Heard Island and McDonald Islands |
| VA | Holy See (Vatican City State) |
| HN | Honduras |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-----|--|
| HK | Hong Kong |
| HU | Hungary |
| IS | Iceland |
| IN | India |
| ID | Indonesia |
| IR | Iran, Islamic Republic of |
| IQ | Iraq |
| IE | Ireland |
| IM | Isle of Man |
| IL | Israel |
| IT | Italy |
| JM | Jamaica |
| JP | Japan |
| JE | Jersey |
| JO | Jordan |
| KZ | Kazakhstan |
| KE | Kenya |
| KI | Kiribati |
| KP | Korea, Democratic People's Republic of |
| KR | Korea, Republic of |
| KW | Kuwait |
| KG | Kyrgyzstan |
| LA | Lao People's Democratic Republic |
| LV | Latvia |
| LB | Lebanon |
| LS | Lesotho |
| LR | Liberia |
| LY | Libya |
| LI | Liechtenstein |
| LT | Lithuania |
| LU | Luxembourg |
| MO | Macao |
| MK | Macedonia, Republic of |
| MG | Madagascar |
| MW | Malawi |
| MY | Malaysia |
| MV | Maldives |
| ML | Mali |
| MT | Malta |
| MH | Marshall Islands |
| MQ | Martinique |
| MR | Mauritania |
| MU | Mauritius |
| YT | Mayotte |
| MX | Mexico |
| FM | Micronesia, Federated States of |
| MD | Moldova, Republic of |
| MC | Monaco |
| MN | Mongolia |
| ME | Montenegro |
| MS | Montserrat |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-----|--|
| MA | Morocco |
| MZ | Mozambique |
| MM | Myanmar |
| NA | Namibia |
| NR | Nauru |
| NP | Nepal |
| NL | Netherlands |
| NC | New Caledonia |
| NZ | New Zealand |
| NI | Nicaragua |
| NE | Niger |
| NG | Nigeria |
| NU | Niue |
| NF | Norfolk Island |
| MP | Northern Mariana Islands |
| NO | Norway |
| OM | Oman |
| PK | Pakistan |
| PW | Palau |
| PS | Palestine, State of |
| PA | Panama |
| PG | Papua New Guinea |
| PY | Paraguay |
| PE | Peru |
| PH | Philippines |
| PN | Pitcairn |
| PL | Poland |
| PT | Portugal |
| PR | Puerto Rico |
| QA | Qatar |
| RE | Réunion |
| RO | Romania |
| RU | Russian Federation |
| RW | Rwanda |
| BL | Saint Barthélemy |
| SH | Saint Helena, Ascension and Tristan da Cunha |
| KN | Saint Kitts and Nevis |
| LC | Saint Lucia |
| MF | Saint Martin (French part) |
| PM | Saint Pierre and Miquelon |
| VC | Saint Vincent and the Grenadines |
| WS | Samoa |
| SM | San Marino |
| ST | Sao Tome and Principe |
| SA | Saudi Arabia |
| SN | Senegal |
| RS | Serbia |
| SC | Seychelles |
| SL | Sierra Leone |
| SG | Singapore |
| SX | Sint Maarten (Dutch part) |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|--|
| SK | Slovakia |
| SI | Slovenia |
| SB | Solomon Islands |
| SO | Somalia |
| ZA | South Africa |
| GS | South Georgia and the South Sandwich Islands |
| ES | Spain |
| LK | Sri Lanka |
| SD | Sudan |
| SR | Suriname |
| SS | South Sudan |
| SJ | Svalbard and Jan Mayen |
| SZ | Swaziland |
| SE | Sweden |
| CH | Switzerland |
| SY | Syrian Arab Republic |
| TW | Taiwan, Province of China |
| TJ | Tajikistan |
| TZ | Tanzania, United Republic of |
| TH | Thailand |
| TL | Timor-Leste |
| TG | Togo |
| TK | Tokelau |
| TO | Tonga |
| TT | Trinidad and Tobago |
| TN | Tunisia |
| TR | Turkey |
| TM | Turkmenistan |
| TC | Turks and Caicos Islands |
| TV | Tuvalu |
| UG | Uganda |
| UA | Ukraine |
| AE | United Arab Emirates |
| GB | United Kingdom |
| US | United States |
| UM | United States Minor Outlying Islands |
| UY | Uruguay |
| UZ | Uzbekistan |
| VU | Vanuatu |
| VE | Venezuela, Bolivarian Republic of |
| VN | Viet Nam |
| VG | Virgin Islands, British |
| VI | Virgin Islands, U.S. |
| WF | Wallis and Futuna |
| EH | Western Sahara |
| YE | Yemen |
| ZM | Zambia |
| ZW | Zimbabwe |
| AD-07 | Andorra la Vella |
| AD-02 | Canillo |
| AD-03 | Encamp |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------|
| AD-08 | Escaldes-Engordany |
| AD-04 | La Massana |
| AD-05 | Ordino |
| AD-06 | Sant Julià de Lòria |
| AE-AZ | Abū aby [Abu Dhabi] |
| AE-AJ | 'Ajmān |
| AE-FU | Al Fujayrah |
| AE-SH | Ash Shāriqah |
| AE-DU | Dubayy |
| AE-RK | Ra's al Khaymah |
| AE-UQ | Umm al Qaywayn |
| AF-BDS | Badakhshān |
| AF-BDG | Bādgīs |
| AF-BGL | Baghlān |
| AF-BAL | Balkh |
| AF-BAM | Bāmyān |
| AF-DAY | Dāykundī |
| AF-FRA | Farāh |
| AF-FYB | Fāryāb |
| AF-GHA | Ghaznī |
| AF-GHO | Ghōr |
| AF-HEL | Helmand |
| AF-HER | Herāt |
| AF-JOW | Jowzjān |
| AF-KAB | Kābul |
| AF-KAN | Kandahār |
| AF-KAP | Kāpīsā |
| AF-KHO | Khōst |
| AF-KNR | Kunar |
| AF-KDZ | Kunduz |
| AF-LAG | Laghmān |
| AF-LOG | Lōgar |
| AF-NAN | Nangarhār |
| AF-NIM | Nīmrōz |
| AF-NUR | Nūristān |
| AF-URU | Uruzgān |
| AF-PIA | Paktīyā |
| AF-PKA | Paktīkā |
| AF-PAN | Panjshayr |
| AF-PAR | Parwān |
| AF-SAM | Samangān |
| AF-SAR | Sar-e Pul |
| AF-TAK | Takhār |
| AF-WAR | Wardak |
| AF-ZAB | Zābul |
| AG-03 | Saint George |
| AG-04 | Saint John |
| AG-05 | Saint Mary |
| AG-06 | Saint Paul |
| AG-07 | Saint Peter |
| AG-08 | Saint Philip |

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Table A.5.1 – continued from previous page

| Key | Description |
|-------|----------------|
| AG-10 | Barbuda |
| AG-11 | Redonda |
| AL-01 | Berat |
| AL-09 | Dibër |
| AL-02 | Durrës |
| AL-03 | Elbasan |
| AL-04 | Fier |
| AL-05 | Gjirokastër |
| AL-06 | Korçë |
| AL-07 | Kukës |
| AL-08 | Lezhë |
| AL-10 | Shkodër |
| AL-11 | Tiranë |
| AL-12 | Vlorë |
| AL-BR | Berat |
| AL-BU | Bulqizë |
| AL-DL | Delvinë |
| AL-DV | Devoll |
| AL-DI | Dibër |
| AL-DR | Durrës |
| AL-EL | Elbasan |
| AL-FR | Fier |
| AL-GR | Gramsh |
| AL-GJ | Gjirokastër |
| AL-HA | Has |
| AL-KA | Kavajë |
| AL-ER | Kolonjë |
| AL-KO | Korçë |
| AL-KR | Krujë |
| AL-KC | Kuçovë |
| AL-KU | Kukës |
| AL-KB | Kurbin |
| AL-LE | Lezhë |
| AL-LB | Librazhd |
| AL-LU | Lushnjë |
| AL-MM | Malësi e Madhe |
| AL-MK | Mallakastër |
| AL-MT | Mat |
| AL-MR | Mirditë |
| AL-PQ | Peqin |
| AL-PR | Përmet |
| AL-PG | Pogradec |
| AL-PU | Pukë |
| AL-SR | Sarandë |
| AL-SK | Skrapar |
| AL-SH | Shkodër |
| AL-TE | Tepelenë |
| AL-TR | Tiranë |
| AL-TP | Tropojë |
| AL-VL | Vlorë |
| AM-ER | Erevan |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------------------|
| AM-AG | Aragacotn |
| AM-AR | Ararat |
| AM-AV | Armavir |
| AM-GR | Gegarkunik' |
| AM-KT | Kotayk' |
| AM-LO | Lory |
| AM-SH | Sirak |
| AM-SU | Syunik' |
| AM-TV | Tavus |
| AM-VD | Vayoc Jor |
| AO-BGO | Bengo |
| AO-BGU | Benguela |
| AO-BIE | Bié |
| AO-CAB | Cabinda |
| AO-CCU | Cuando-Cubango |
| AO-CNO | Cuanza Norte |
| AO-CUS | Cuanza Sul |
| AO-CNN | Cunene |
| AO-HUA | Huambo |
| AO-HUI | Huila |
| AO-LUA | Luanda |
| AO-LNO | Lunda Norte |
| AO-LSU | Lunda Sul |
| AO-MAL | Malange |
| AO-MOX | Moxico |
| AO-NAM | Namibe |
| AO-UIG | Uié |
| AO-ZAI | Zaire |
| AR-C | Ciudad Autónoma de Buenos Aires |
| AR-B | Buenos Aires |
| AR-K | Catamarca |
| AR-X | Cordoba |
| AR-W | Corrientes |
| AR-H | Chaco |
| AR-U | Chubut |
| AR-E | Entre Ríos |
| AR-P | Formosa |
| AR-Y | Jujuy |
| AR-L | La Pampa |
| AR-M | Mendoza |
| AR-N | Misiones |
| AR-Q | Neuquen |
| AR-R | Rio Negro |
| AR-A | Salta |
| AR-J | San Juan |
| AR-D | San Luis |
| AR-Z | Santa Cruz |
| AR-S | Santa Fe |
| AR-G | Santiago del Estero |
| AR-V | Tierra del Fuego |
| AR-T | Tucuman |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|------------------------------|
| AT-1 | Burgenland |
| AT-2 | Kärnten |
| AT-3 | Niederösterreich |
| AT-4 | Oberösterreich |
| AT-5 | Salzburg |
| AT-6 | Steiermark |
| AT-7 | Tirol |
| AT-8 | Vorarlberg |
| AT-9 | Wien |
| AU-NSW | New South Wales |
| AU-QLD | Queensland |
| AU-SA | South Australia |
| AU-TAS | Tasmania |
| AU-VIC | Victoria |
| AU-WA | Western Australia |
| AU-ACT | Australian Capital Territory |
| AU-NT | Northern Territory |
| AZ-NX | Naxçıvan |
| AZ-BA | Bakı |
| AZ-GA | Gənc |
| AZ-XA | Xankəndi |
| AZ-LA | Lənkəran |
| AZ-MI | Mingçevir |
| AZ-NA | Naftalan |
| AZ-NV | Naxçıvan |
| AZ-SM | Sumqayıt |
| AZ-SA | Şəki |
| AZ-SR | Şirvan |
| AZ-YE | Yevlax |
| AZ-ABS | Abşeron |
| AZ-AGC | Ağcabədi |
| AZ-AGM | Ağdam |
| AZ-AGS | Ağdaş |
| AZ-AGA | Ağstafa |
| AZ-AGU | Ağsu |
| AZ-AST | Astara |
| AZ-BAB | Babek |
| AZ-BAL | Balakən |
| AZ-BEY | Beyləqan |
| AZ-BAR | Berd |
| AZ-BIL | Biləsuvar |
| AZ-CAB | Cəbrayıl |
| AZ-CAL | Cəlilabad |
| AZ-CUL | Cülfa |
| AZ-DAS | Daşkəsnə |
| AZ-FUZ | Füzuli |
| AZ-GAD | Gədəbəy |
| AZ-GOR | Goranboy |
| AZ-GOY | Göyçay |
| AZ-GYG | Göygöl |
| AZ-HAC | Hacıqabul |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------------|
| AZ-XAC | Xaçmaz |
| AZ-XIZ | Xızı |
| AZ-XCI | Xocalı |
| AZ-XVD | Xocav nd |
| AZ-IMI | İmişli |
| AZ-ISM | İsmayıllı |
| AZ-KAL | K lb c r |
| AZ-KAN | K ng rli |
| AZ-KUR | Kürd mir |
| AZ-QAX | Qax |
| AZ-QAZ | Qazax |
| AZ-QOB | Qobustan |
| AZ-QBA | Quba |
| AZ-QBI | Qubadlı |
| AZ-QUS | Qusar |
| AZ-LAC | Laçın |
| AZ-LER | Lerik |
| AZ-LAN | L nk ran |
| AZ-MAS | Masallı |
| AZ-NEF | Neftçala |
| AZ-OGU | Oğuz |
| AZ-ORD | Ordubad |
| AZ-QAB | Q b l |
| AZ-SAT | Saatlı |
| AZ-SAB | Sabirabad |
| AZ-SAL | Salyan |
| AZ-SMX | Samux |
| AZ-SAD | S d r k |
| AZ-SIY | Siy z n |
| AZ-SBN | Şabran |
| AZ-SAH | Şahbuz |
| AZ-SMI | Şamaxı |
| AZ-SAK | Ş ki |
| AZ-SKR | Ş mkir |
| AZ-SAR | Ş rur |
| AZ-SUS | Şuşa |
| AZ-TAR | T rt r |
| AZ-TOV | Tovuz |
| AZ-UCA | Ucar |
| AZ-YAR | Yardımlı |
| AZ-YEV | Yevlax |
| AZ-ZAQ | Zaqatala |
| AZ-ZAN | Z ngilan |
| AZ-ZAR | Z rdab |
| BA-BIH | Federacija Bosne i Hercegovine |
| BA-SRP | Republika Srpska |
| BA-05 | Bosansko-podrinjski kanton |
| BA-07 | Hercegovačko-neretvanski kanton |
| BA-10 | Kanton br. 10 (Livanjski kanton) |
| BA-09 | Kanton Sarajevo |
| BA-02 | Posavski kanton |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------|
| BA-06 | Srednjobosanski kanton |
| BA-03 | Tuzlanski kanton |
| BA-01 | Unsko-sanski kanton |
| BA-08 | Zapadnohercegovački kanton |
| BA-04 | Zeničko-dobojski kanton |
| BA-BRC | Brčko distrikt |
| BB-01 | Christ Church |
| BB-02 | Saint Andrew |
| BB-03 | Saint George |
| BB-04 | Saint James |
| BB-05 | Saint John |
| BB-06 | Saint Joseph |
| BB-07 | Saint Lucy |
| BB-08 | Saint Michael |
| BB-09 | Saint Peter |
| BB-10 | Saint Philip |
| BB-11 | Saint Thomas |
| BD-A | Barisal |
| BD-B | Chittagong |
| BD-C | Dhaka |
| BD-D | Khulna |
| BD-E | Rajshahi |
| BD-F | Rangpur |
| BD-G | Sylhet |
| BD-05 | Bagerhat |
| BD-01 | Bandarban |
| BD-02 | Barguna |
| BD-06 | Barisal |
| BD-07 | Bhola |
| BD-03 | Bogra |
| BD-04 | Brahmanbaria |
| BD-09 | Chandpur |
| BD-10 | Chittagong |
| BD-12 | Chuadanga |
| BD-08 | Comilla |
| BD-11 | Cox's Bazar |
| BD-13 | Dhaka |
| BD-14 | Dinajpur |
| BD-15 | Faridpur |
| BD-16 | Feni |
| BD-19 | Gaibandha |
| BD-18 | Gazipur |
| BD-17 | Gopalganj |
| BD-20 | Habiganj |
| BD-24 | Jaipurhat |
| BD-21 | Jamalpur |
| BD-22 | Jessore |
| BD-25 | Jhalakati |
| BD-23 | Jhenaidah |
| BD-29 | Khagrachari |
| BD-27 | Khulna |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---|
| BD-26 | Kishorganj |
| BD-28 | Kurigram |
| BD-30 | Kushtia |
| BD-31 | Lakshmipur |
| BD-32 | Lalmonirhat |
| BD-36 | Madaripur |
| BD-37 | Magura |
| BD-33 | Manikganj |
| BD-39 | Meherpur |
| BD-38 | Moulvibazar |
| BD-35 | Munshiganj |
| BD-34 | Mymensingh |
| BD-48 | Naogaon |
| BD-43 | Narail |
| BD-40 | Narayanganj |
| BD-42 | Narsingdi |
| BD-44 | Natore |
| BD-45 | Nawabganj |
| BD-41 | Netrakona |
| BD-46 | Nilphamari |
| BD-47 | Noakhali |
| BD-49 | Pabna |
| BD-52 | Panchagarh |
| BD-51 | Patuakhali |
| BD-50 | Pirojpur |
| BD-53 | Rajbari |
| BD-54 | Rajshahi |
| BD-56 | Rangamati |
| BD-55 | Rangpur |
| BD-58 | Satkhira |
| BD-62 | Shariatpur |
| BD-57 | Sherpur |
| BD-59 | Sirajganj |
| BD-61 | Sunamganj |
| BD-60 | Sylhet |
| BD-63 | Tangail |
| BD-64 | Thakurgaon |
| BE-BRU | Bruxelles-Capitale, Région de; Brussels Hoofdstedelijk Gewest |
| BE-VLG | Vlaams Gewest |
| BE-WAL | wallonie, Région |
| BE-VAN | Antwerpen |
| BE-WBR | Brabant wallon |
| BE-WHT | Hainaut |
| BE-WLG | Liège |
| BE-VLI | Limburg |
| BE-WLX | Luxembourg |
| BE-WNA | Namur |
| BE-VOV | Oost-Vlaanderen |
| BE-VBR | Vlaams-Brabant |
| BE-VWV | West-Vlaanderen |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------|
| BF-01 | Boucle du Mouhoun |
| BF-02 | Cascades |
| BF-03 | Centre |
| BF-04 | Centre-Est |
| BF-05 | Centre-Nord |
| BF-06 | Centre-Ouest |
| BF-07 | Centre-Sud |
| BF-08 | Est |
| BF-09 | Hauts-Bassins |
| BF-10 | Nord |
| BF-11 | Plateau-Central |
| BF-12 | Sahel |
| BF-13 | Sud-Ouest |
| BF-BAL | Balé |
| BF-BAM | Bam |
| BF-BAN | Banwa |
| BF-BAZ | Bazèga |
| BF-BGR | Bougouriba |
| BF-BLG | Boulgou |
| BF-BLK | Boulkiemdé |
| BF-COM | Comoé |
| BF-GAN | Ganzourgou |
| BF-GNA | Gnagna |
| BF-GOU | Gourma |
| BF-HOU | Houet |
| BF-IOB | Ioba |
| BF-KAD | Kadiogo |
| BF-KEN | Kénédougou |
| BF-KMD | Komondjari |
| BF-KMP | Kompienga |
| BF-KOS | Kossi |
| BF-KOP | Koulpélogo |
| BF-KOT | Kouritenga |
| BF-KOW | Kourwéogo |
| BF-LER | Léraba |
| BF-LOR | Loroum |
| BF-MOU | Mouhoun |
| BF-NAO | Naouri |
| BF-NAM | Namentenga |
| BF-NAY | Nayala |
| BF-NOU | Noumbiel |
| BF-OUN | Oubritenga |
| BF-OUD | Oudalan |
| BF-PAS | Passoré |
| BF-PON | Poni |
| BF-SNG | Sanguié |
| BF-SMT | Sanmatenga |
| BF-SEN | Séno |
| BF-SIS | Sissili |
| BF-SOM | Soum |
| BF-SOR | Sourou |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------------|
| BF-TAP | Tapoa |
| BF-TUI | Tui |
| BF-YAG | Yagha |
| BF-YAT | Yatenga |
| BF-ZIR | Ziro |
| BF-ZON | Zondoma |
| BF-ZOU | Zoundwéogo |
| BG-01 | Blagoevgrad |
| BG-02 | Burgas |
| BG-08 | Dobrich |
| BG-07 | Gabrovo |
| BG-26 | Haskovo |
| BG-09 | Kardzhali |
| BG-10 | Kyustendil |
| BG-11 | Lovech |
| BG-12 | Montana |
| BG-13 | Pazardzhik |
| BG-14 | Pernik |
| BG-15 | Pleven |
| BG-16 | Plovdiv |
| BG-17 | Razgrad |
| BG-18 | Ruse |
| BG-27 | Shumen |
| BG-19 | Silistra |
| BG-20 | Sliven |
| BG-21 | Smolyan |
| BG-23 | Sofia |
| BG-22 | Sofia-Grad |
| BG-24 | Stara Zagora |
| BG-25 | Targovishte |
| BG-03 | Varna |
| BG-04 | Veliko Tarnovo |
| BG-05 | Vidin |
| BG-06 | Vratsa |
| BG-28 | Yambol |
| BH-13 | Al Manāmah (Al ‘Āṣimah) |
| BH-14 | Al Janūbīyah |
| BH-15 | Al Mu arraq |
| BH-16 | Al Wusṭá |
| BH-17 | Ash Shamālīyah |
| BI-BB | Bubanza |
| BI-BM | Bujumbura Mairie |
| BI-BL | Bujumbura Rural |
| BI-BR | Bururi |
| BI-CA | Cankuzo |
| BI-CI | Cibitoke |
| BI-GI | Citega |
| BI-KR | Karuzi |
| BI-KY | Kayanza |
| BI-KI | Kirundo |
| BI-MA | Makamba |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------|
| BI-MU | Muramvya |
| BI-MW | Mwaro |
| BI-NG | Ngozi |
| BI-RT | Rutana |
| BI-RY | Ruyigi |
| BJ-AL | Alibori |
| BJ-AK | Atakora |
| BJ-AQ | Atlantique |
| BJ-BO | Borgou |
| BJ-CO | Collines |
| BJ-DO | Donga |
| BJ-KO | Kouffo |
| BJ-LI | Littoral |
| BJ-MO | Mono |
| BJ-OU | Ouémé |
| BJ-PL | Plateau |
| BJ-ZO | Zou |
| BN-BE | Belait |
| BN-BM | Brunei-Muara |
| BN-TE | Temburong |
| BN-TU | Tutong |
| BO-H | Chuquisaca |
| BO-C | Cochabamba |
| BO-B | El Beni |
| BO-L | La Paz |
| BO-O | Oruro |
| BO-N | Pando |
| BO-P | Potosí |
| BO-S | Santa Cruz |
| BO-T | Tarija |
| BQ-BO | Bonaire |
| BQ-SA | Saba |
| BQ-SE | Sint Eustatius |
| BR-AC | Acre |
| BR-AL | Alagoas |
| BR-AM | Amazonas |
| BR-AP | Amapá |
| BR-BA | Bahia |
| BR-CE | Ceará |
| BR-ES | Espírito Santo |
| BR-FN | Fernando de Noronha |
| BR-GO | Goiás |
| BR-MA | Maranhão |
| BR-MG | Minas Gerais |
| BR-MS | Mato Grosso do Sul |
| BR-MT | Mato Grosso |
| BR-PA | Pará |
| BR-PB | Paraíba |
| BR-PE | Pernambuco |
| BR-PI | Piauí |
| BR-PR | Paraná |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|-----------------------------|
| BR-RJ | Rio de Janeiro |
| BR-RN | Rio Grande do Norte |
| BR-RO | Rondônia |
| BR-RR | Roraima |
| BR-RS | Rio Grande do Sul |
| BR-SC | Santa Catarina |
| BR-SE | Sergipe |
| BR-SP | São Paulo |
| BR-TO | Tocantins |
| BR-DF | Distrito Federal |
| BS-AC | Acklins |
| BS-BY | Berry Islands |
| BS-BI | Bimini |
| BS-BP | Black Point |
| BS-CI | Cat Island |
| BS-CO | Central Abaco |
| BS-CS | Central Andros |
| BS-CE | Central Eleuthera |
| BS-FP | City of Freeport |
| BS-CK | Crooked Island and Long Cay |
| BS-EG | East Grand Bahama |
| BS-EX | Exuma |
| BS-GC | Grand Cay |
| BS-HI | Harbour Island |
| BS-HT | Hope Town |
| BS-IN | Inagua |
| BS-LI | Long Island |
| BS-MC | Mangrove Cay |
| BS-MG | Mayaguana |
| BS-MI | Moore's Island |
| BS-NO | North Abaco |
| BS-NS | North Andros |
| BS-NE | North Eleuthera |
| BS-RI | Ragged Island |
| BS-RC | Rum Cay |
| BS-SS | San Salvador |
| BS-SO | South Abaco |
| BS-SA | South Andros |
| BS-SE | South Eleuthera |
| BS-SW | Spanish Wells |
| BS-WG | West Grand Bahama |
| BT-33 | Bumthang |
| BT-12 | Chhukha |
| BT-22 | Dagana |
| BT-GA | Gasa |
| BT-13 | Ha |
| BT-44 | Lhuentse |
| BT-42 | Monggar |
| BT-11 | Paro |
| BT-43 | Pemagatshel |
| BT-23 | Punakha |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------------|
| BT-45 | Samdrup Jongkha |
| BT-14 | Samtee |
| BT-31 | Sarpang |
| BT-15 | Thimphu |
| BT-41 | Trashigang |
| BT-TY | Trashi Yangtse |
| BT-32 | Trongsa |
| BT-21 | Tsirang |
| BT-24 | Wangdue Phodrang |
| BT-34 | Zhemgang |
| BW-CE | Central |
| BW-GH | Ghanzi |
| BW-KG | Kgalagadi |
| BW-KL | Kgatleng |
| BW-KW | Kweneng |
| BW-NE | North-East |
| BW-NW | North-West |
| BW-SE | South-East |
| BW-SO | Southern |
| BY-HM | Horad Minsk |
| BY-BR | Brèsckaja voblast' |
| BY-HO | Homel'skaja voblast' |
| BY-HR | Hrodzenskaja voblast' |
| BY-MA | Mahilëuskaja voblast' |
| BY-MI | Minskaja voblast' |
| BY-VI | Vicebskaja voblast' |
| BZ-BZ | Belize |
| BZ-CY | Cayo |
| BZ-CZL | Corozal |
| BZ-OW | Orange Walk |
| BZ-SC | Stann Creek |
| BZ-TOL | Toledo |
| CA-AB | Alberta |
| CA-BC | British Columbia |
| CA-MB | Manitoba |
| CA-NB | New Brunswick |
| CA-NL | Newfoundland and Labrador |
| CA-NS | Nova Scotia |
| CA-ON | Ontario |
| CA-PE | Prince Edward Island |
| CA-QC | Quebec |
| CA-SK | Saskatchewan |
| CA-NT | Northwest Territories |
| CA-NU | Nunavut |
| CA-YT | Yukon Territory |
| CD-KN | Kinshasa |
| CD-BN | Bandundu |
| CD-BC | Bas-Congo |
| CD-EQ | Équateur |
| CD-KW | Kasai-Occidental |
| CD-KE | Kasai-Oriental |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|------------------------------|
| CD-KA | Katanga |
| CD-MA | Maniema |
| CD-NK | Nord-Kivu |
| CD-OR | Orientale |
| CD-SK | Sud-Kivu |
| CF-BGF | Bangi |
| CF-BB | Bamingui-Bangoran |
| CF-BK | Basse-Kotto |
| CF-HK | Haute-Kotto |
| CF-HM | Haut-Mbomou |
| CF-KG | Kémo-Gribingui |
| CF-LB | Lobaye |
| CF-HS | Haute-Sangha / Mambéré-Kadéï |
| CF-MB | Mbomou |
| CF-NM | Nana-Mambéré |
| CF-MP | Ombella-M'poko |
| CF-UK | Ouaka |
| CF-AC | Ouham |
| CF-OP | Ouham-Pendé |
| CF-VK | Vakaga |
| CF-KB | Gribingui |
| CF-SE | Sangha |
| CG-11 | Bouenza |
| CG-8 | Cuvette |
| CG-15 | Cuvette-Ouest |
| CG-5 | Kouilou |
| CG-2 | Lékoumou |
| CG-7 | Likouala |
| CG-9 | Niari |
| CG-14 | Plateaux |
| CG-12 | Pool |
| CG-13 | Sangha |
| CG-BZV | Brazzaville |
| CH-AG | Aargau |
| CH-AI | Appenzell Innerrhoden |
| CH-AR | Appenzell Ausserrhoden |
| CH-BE | Bern |
| CH-BL | Basel-Landschaft |
| CH-BS | Basel-Stadt |
| CH-FR | Fribourg |
| CH-GE | Genève |
| CH-GL | Glarus |
| CH-GR | Graubünden |
| CH-JU | Jura |
| CH-LU | Luzern |
| CH-NE | Neuchâtel |
| CH-NW | Nidwalden |
| CH-OW | Obwalden |
| CH-SG | Sankt Gallen |
| CH-SH | Schaffhausen |
| CH-SO | Solothurn |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---|
| CH-SZ | Schwyz |
| CH-TG | Thurgau |
| CH-TI | Ticino |
| CH-UR | Uri |
| CH-VD | Vaud |
| CH-VS | Valais |
| CH-ZG | Zug |
| CH-ZH | Zürich |
| CI-06 | 18 Montagnes (Région des) |
| CI-16 | Agnébi (Région de l') |
| CI-17 | Bafing (Région du) |
| CI-09 | Bas-Sassandra (Région du) |
| CI-10 | Denguélé (Région du) |
| CI-18 | Fromager (Région du) |
| CI-02 | Haut-Sassandra (Région du) |
| CI-07 | Lacs (Région des) |
| CI-01 | Lagunes (Région des) |
| CI-12 | Marahoué (Région de la) |
| CI-19 | Moyen-Cavally (Région du) |
| CI-05 | Moyen-Comoé (Région du) |
| CI-11 | Nzi-Comoé (Région) |
| CI-03 | Savanes (Région des) |
| CI-15 | Sud-Bandama (Région du) |
| CI-13 | Sud-Comoé (Région du) |
| CI-04 | Vallée du Bandama (Région de la) |
| CI-14 | Worodouqou (Région du) |
| CI-08 | Zanzan (Région du) |
| CL-AI | Aisén del General Carlos Ibáñez del Campo |
| CL-AN | Antofagasta |
| CL-AR | Araucanía |
| CL-AP | Arica y Parinacota |
| CL-AT | Atacama |
| CL-BI | Bío-Bío |
| CL-CO | Coquimbo |
| CL-LI | Libertador General Bernardo O'Higgins |
| CL-LL | Los Lagos |
| CL-LR | Los Ríos |
| CL-MA | Magallanes y Antártica Chilena |
| CL-ML | Maule |
| CL-RM | Región Metropolitana de Santiago |
| CL-TA | Tarapacá |
| CL-VS | Valparaíso |
| CM-AD | Adamaoua |
| CM-CE | Centre |
| CM-ES | East |
| CM-EN | Far North |
| CM-LT | Littoral |
| CM-NO | North |
| CM-NW | North-West (Cameroon) |
| CM-SU | South |
| CM-SW | South-West |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------|
| CM-OU | West |
| CN-11 | Beijing |
| CN-50 | Chongqing |
| CN-31 | Shanghai |
| CN-12 | Tianjin |
| CN-34 | Anhui |
| CN-35 | Fujian |
| CN-62 | Gansu |
| CN-44 | Guangdong |
| CN-52 | Guizhou |
| CN-46 | Hainan |
| CN-13 | Hebei |
| CN-23 | Heilongjiang |
| CN-41 | Henan |
| CN-42 | Hubei |
| CN-43 | Hunan |
| CN-32 | Jiangsu |
| CN-36 | Jiangxi |
| CN-22 | Jilin |
| CN-21 | Liaoning |
| CN-63 | Qinghai |
| CN-61 | Shaanxi |
| CN-37 | Shandong |
| CN-14 | Shanxi |
| CN-51 | Sichuan |
| CN-71 | Taiwan |
| CN-53 | Yunnan |
| CN-33 | Zhejiang |
| CN-45 | Guangxi |
| CN-15 | Nei Mongol |
| CN-64 | Ningxia |
| CN-65 | Xinjiang |
| CN-54 | Xizang |
| CN-91 | Xianggang (Hong-Kong) |
| CN-92 | Aomen (Macau) |
| CO-DC | Distrito Capital de Bogotá |
| CO-AMA | Amazonas |
| CO-ANT | Antioquia |
| CO-ARA | Arauca |
| CO-ATL | Atlántico |
| CO-BOL | Bolívar |
| CO-BOY | Boyacá |
| CO-CAL | Caldas |
| CO-CAQ | Caquetá |
| CO-CAS | Casanare |
| CO-CAU | Cauca |
| CO-CES | Cesar |
| CO-CHO | Chocó |
| CO-COR | Córdoba |
| CO-CUN | Cundinamarca |
| CO-GUA | Guainía |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|--|
| CO-GUV | Guaviare |
| CO-HUI | Huila |
| CO-LAG | La Guajira |
| CO-MAG | Magdalena |
| CO-MET | Meta |
| CO-NAR | Nariño |
| CO-NSA | Norte de Santander |
| CO-PUT | Putumayo |
| CO-QUI | Quindío |
| CO-RIS | Risaralda |
| CO-SAP | San Andrés, Providencia y Santa Catalina |
| CO-SAN | Santander |
| CO-SUC | Sucre |
| CO-TOL | Tolima |
| CO-VAC | Valle del Cauca |
| CO-VAU | Vaupés |
| CO-VID | Vichada |
| CR-A | Alajuela |
| CR-C | Cartago |
| CR-G | Guanacaste |
| CR-H | Heredia |
| CR-L | Limón |
| CR-P | Puntarenas |
| CR-SJ | San José |
| CU-09 | Camagüey |
| CU-08 | Ciego de Ávila |
| CU-06 | Cienfuegos |
| CU-03 | Ciudad de La Habana |
| CU-12 | Granma |
| CU-14 | Guantánamo |
| CU-11 | Holguín |
| CU-02 | La Habana |
| CU-10 | Las Tunas |
| CU-04 | Matanzas |
| CU-01 | Pinar del Río |
| CU-07 | Sancti Spíritus |
| CU-13 | Santiago de Cuba |
| CU-05 | Villa Clara |
| CU-99 | Isla de la Juventud |
| CV-B | Ilhas de Barlavento |
| CV-S | Ilhas de Sotavento |
| CV-BV | Boa Vista |
| CV-BR | Brava |
| CV-MA | Maio |
| CV-MO | Mosteiros |
| CV-PA | Paul |
| CV-PN | Porto Novo |
| CV-PR | Praia |
| CV-RB | Ribeira Brava |
| CV-RG | Ribeira Grande |
| CV-RS | Ribeira Grande de Santiago |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------------|
| CV-SL | Sal |
| CV-CA | Santa Catarina |
| CV-CF | Santa Catarina de Fogo |
| CV-CR | Santa Cruz |
| CV-SD | São Domingos |
| CV-SF | São Filipe |
| CV-SO | São Lourenço dos Órgãos |
| CV-SM | São Miguel |
| CV-SS | São Salvador do Mundo |
| CV-SV | São Vicente |
| CV-TA | Tarrafal |
| CV-TS | Tarrafal de São Nicolau |
| CY-04 | Ammóchostos |
| CY-06 | Kerýneia |
| CY-03 | Lárnaka |
| CY-01 | Lefkosía |
| CY-02 | Lemesós |
| CY-05 | Páfos |
| CZ-JC | Jihočeský kraj |
| CZ-JM | Jihomoravský kraj |
| CZ-KA | Karlovarský kraj |
| CZ-KR | Královéhradecký kraj |
| CZ-LI | Liberecký kraj |
| CZ-MO | Moravskoslezský kraj |
| CZ-OL | Olomoucký kraj |
| CZ-PA | Pardubický kraj |
| CZ-PL | Plzeňský kraj |
| CZ-PR | Praha, hlavní město |
| CZ-ST | Středočeský kraj |
| CZ-US | Ústecký kraj |
| CZ-VY | Vysočina |
| CZ-ZL | Zlínský kraj |
| CZ-201 | Benešov |
| CZ-202 | Beroun |
| CZ-621 | Blansko |
| CZ-622 | Brno-město |
| CZ-623 | Brno-venkov |
| CZ-801 | Bruntál |
| CZ-624 | Břeclav |
| CZ-511 | Česká Lípa |
| CZ-311 | České Budějovice |
| CZ-312 | Český Krumlov |
| CZ-421 | Děčín |
| CZ-321 | Domažlice |
| CZ-802 | Frýdek Místek |
| CZ-611 | Havlíčkův Brod |
| CZ-625 | Hodonín |
| CZ-521 | Hradec Králové |
| CZ-411 | Cheb |
| CZ-422 | Chomutov |
| CZ-531 | Chrudim |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|--------------------|
| CZ-512 | Jablonec nad Nisou |
| CZ-711 | Jeseník |
| CZ-522 | Jičín |
| CZ-612 | Jihlava |
| CZ-313 | Jindřichův Hradec |
| CZ-412 | Karlovy Vary |
| CZ-803 | Karviná |
| CZ-203 | Kladno |
| CZ-322 | Klatovy |
| CZ-204 | Kolín |
| CZ-721 | Kroměříž |
| CZ-205 | Kutná Hora |
| CZ-513 | Liberec |
| CZ-423 | Litoměřice |
| CZ-424 | Louny |
| CZ-206 | Mělník |
| CZ-207 | Mladá Boleslav |
| CZ-425 | Most |
| CZ-523 | Náchod |
| CZ-804 | Nový Jičín |
| CZ-208 | Nymburk |
| CZ-712 | Olomouc |
| CZ-805 | Opava |
| CZ-806 | Ostrava město |
| CZ-532 | Pardubice |
| CZ-613 | Pelhřimov |
| CZ-314 | Písek |
| CZ-324 | Plzeň jih |
| CZ-323 | Plzeň město |
| CZ-325 | Plzeň sever |
| CZ-101 | Praha 1 |
| CZ-102 | Praha 2 |
| CZ-103 | Praha 3 |
| CZ-104 | Praha 4 |
| CZ-105 | Praha 5 |
| CZ-106 | Praha 6 |
| CZ-107 | Praha 7 |
| CZ-108 | Praha 8 |
| CZ-109 | Praha 9 |
| CZ-10A | Praha 10 |
| CZ-10B | Praha 11 |
| CZ-10C | Praha 12 |
| CZ-10D | Praha 13 |
| CZ-10E | Praha 14 |
| CZ-10F | Praha 15 |
| CZ-209 | Praha východ |
| CZ-20A | Praha západ |
| CZ-315 | Prachatice |
| CZ-713 | Prostějov |
| CZ-714 | Přerov |
| CZ-20B | Příbram |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|------------------------|
| CZ-20C | Rakovník |
| CZ-326 | Rokycany |
| CZ-524 | Rychnov nad Kněžnou |
| CZ-514 | Semily |
| CZ-413 | Sokolov |
| CZ-316 | Strakonice |
| CZ-533 | Svitavy |
| CZ-715 | Šumperk |
| CZ-317 | Tábor |
| CZ-327 | Tachov |
| CZ-426 | Teplice |
| CZ-525 | Trutnov |
| CZ-614 | Třebíč |
| CZ-722 | Uherské Hradiště |
| CZ-427 | Ústí nad Labem |
| CZ-534 | Ústí nad Orlicí |
| CZ-723 | Vsetín |
| CZ-626 | Vyškov |
| CZ-724 | Zlín |
| CZ-627 | Znojmo |
| CZ-615 | Žďár nad Sázavou |
| DE-BW | Baden-Württemberg |
| DE-BY | Bayern |
| DE-HB | Bremen |
| DE-HH | Hamburg |
| DE-HE | Hessen |
| DE-NI | Niedersachsen |
| DE-NW | Nordrhein-Westfalen |
| DE-RP | Rheinland-Pfalz |
| DE-SL | Saarland |
| DE-SH | Schleswig-Holstein |
| DE-BE | Berlin |
| DE-BB | Brandenburg |
| DE-MV | Mecklenburg-Vorpommern |
| DE-SN | Sachsen |
| DE-ST | Sachsen-Anhalt |
| DE-TH | Thüringen |
| DJ-AS | Ali Sabieh |
| DJ-AR | Arta |
| DJ-DI | Dikhil |
| DJ-OB | Obock |
| DJ-TA | Tadjourah |
| DJ-DJ | Djibouti |
| DK-84 | Hovedstaden |
| DK-82 | Midtjylland |
| DK-81 | Nordjylland |
| DK-85 | Sjælland |
| DK-83 | Syddanmark |
| DM-02 | Saint Andrew |
| DM-03 | Saint David |
| DM-04 | Saint George |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|-----------------------------------|
| DM-05 | Saint John |
| DM-06 | Saint Joseph |
| DM-07 | Saint Luke |
| DM-08 | Saint Mark |
| DM-09 | Saint Patrick |
| DM-10 | Saint Paul |
| DM-01 | Saint Peter |
| DO-01 | Distrito Nacional (Santo Domingo) |
| DO-02 | Azua |
| DO-03 | Bahoruco |
| DO-04 | Barahona |
| DO-05 | Dajabón |
| DO-06 | Duarte |
| DO-08 | El Seybo [El Seibo] |
| DO-09 | Espaillat |
| DO-30 | Hato Mayor |
| DO-10 | Independencia |
| DO-11 | La Altagracia |
| DO-07 | La Estrelleta [Elías Piña] |
| DO-12 | La Romana |
| DO-13 | La Vega |
| DO-14 | María Trinidad Sánchez |
| DO-28 | Monseñor Nouel |
| DO-15 | Monte Cristi |
| DO-29 | Monte Plata |
| DO-16 | Pedernales |
| DO-17 | Peravia |
| DO-18 | Puerto Plata |
| DO-19 | Salcedo |
| DO-20 | Samaná |
| DO-21 | San Cristóbal |
| DO-22 | San Juan |
| DO-23 | San Pedro de Macorís |
| DO-24 | Sánchez Ramírez |
| DO-25 | Santiago |
| DO-26 | Santiago Rodríguez |
| DO-27 | Valverde |
| DZ-01 | Adrar |
| DZ-44 | Aïn Defla |
| DZ-46 | Aïn Témouchent |
| DZ-16 | Alger |
| DZ-23 | Annaba |
| DZ-05 | Batna |
| DZ-08 | Béchar |
| DZ-06 | Béjaïa |
| DZ-07 | Biskra |
| DZ-09 | Blida |
| DZ-34 | Bordj Bou Arréridj |
| DZ-10 | Bouira |
| DZ-35 | Boumerdès |
| DZ-02 | Chlef |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|-----------------|
| DZ-25 | Constantine |
| DZ-17 | Djelfa |
| DZ-32 | El Bayadh |
| DZ-39 | El Oued |
| DZ-36 | El Tarf |
| DZ-47 | Ghardaïa |
| DZ-24 | Guelma |
| DZ-33 | Illizi |
| DZ-18 | Jijel |
| DZ-40 | Khenchela |
| DZ-03 | Laghouat |
| DZ-29 | Mascara |
| DZ-26 | Médéa |
| DZ-43 | Mila |
| DZ-27 | Mostaganem |
| DZ-28 | Msila |
| DZ-45 | Naama |
| DZ-31 | Oran |
| DZ-30 | Ouargla |
| DZ-04 | Oum el Bouaghi |
| DZ-48 | Relizane |
| DZ-20 | Saïda |
| DZ-19 | Sétif |
| DZ-22 | Sidi Bel Abbès |
| DZ-21 | Skikda |
| DZ-41 | Souk Ahras |
| DZ-11 | Tamanghasset |
| DZ-12 | Tébessa |
| DZ-14 | Tiaret |
| DZ-37 | Tindouf |
| DZ-42 | Tipaza |
| DZ-38 | Tissemsilt |
| DZ-15 | Tizi Ouzou |
| DZ-13 | Tlemcen |
| EC-A | Azuay |
| EC-B | Bolívar |
| EC-F | Cañar |
| EC-C | Carchi |
| EC-X | Cotopaxi |
| EC-H | Chimborazo |
| EC-O | El Oro |
| EC-E | Esméraldas |
| EC-W | Galápagos |
| EC-G | Guayas |
| EC-I | Imbabura |
| EC-L | Loja |
| EC-R | Los Ríos |
| EC-M | Manabí |
| EC-S | Morona-Santiago |
| EC-N | Napo |
| EC-D | Orellana |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|--------------------------------|
| EC-Y | Pastaza |
| EC-P | Pichincha |
| EC-SE | Santa Elena |
| EC-SD | Santo Domingo de los Tsáchilas |
| EC-U | Sucumbíos |
| EC-T | Tungurahua |
| EC-Z | Zamora-Chinchipe |
| EE-37 | Harjumaa |
| EE-39 | Hiiumaa |
| EE-44 | Ida-Virumaa |
| EE-49 | Jõgevamaa |
| EE-51 | Järvamaa |
| EE-57 | Lääne-Narva |
| EE-59 | Lääne-Virumaa |
| EE-65 | Põlvamaa |
| EE-67 | Pärnumaa |
| EE-70 | Raplamaa |
| EE-74 | Saaremaa |
| EE-78 | Tartumaa |
| EE-82 | Valgamaa |
| EE-84 | Viljandimaa |
| EE-86 | Võrumaa |
| EG-DK | Ad Daqahliyah |
| EG-BA | Al Bahr al Ahmar |
| EG-BH | Al Buhayrah |
| EG-FYM | Al Fayyūm |
| EG-GH | Al Gharbiyah |
| EG-ALX | Al Iskandariyah |
| EG-IS | Al Ismā'īlīyah |
| EG-GZ | Al Jīzah |
| EG-MNF | Al Minūfiyah |
| EG-MN | Al Minā |
| EG-C | Al Qāhirah |
| EG-KB | Al Qalyūbiyah |
| EG-WAD | Al Wādī al Jadīd |
| EG-SU | As Sādis min Uktūbar |
| EG-SHR | Ash Sharqiyah |
| EG-SUZ | As Suways |
| EG-ASN | Aswān |
| EG-AST | Asyūt |
| EG-BNS | Banī Suwayf |
| EG-PTS | Būr Sa'īd |
| EG-DT | Dumyāt |
| EG-HU | Hulwān |
| EG-JS | Janūb Sīnā' |
| EG-KFS | Kafr ash Shaykh |
| EG-MT | Matrūh |
| EG-KN | Qīnā |
| EG-SIN | Shamal Sīnā' |
| EG-SHG | Sūhāj |
| ER-MA | Al Awsaṭ |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---|
| ER-DU | Al Janūbī |
| ER-AN | Ansabā |
| ER-DK | Janūbī al Ba rī al A mar |
| ER-GB | Qāsh-Barkah |
| ER-SK | Shimālī al Ba rī al A mar |
| ES-AN | Andalucía |
| ES-AR | Aragón |
| ES-AS | Asturias, Principado de |
| ES-CN | Canarias |
| ES-CB | Cantabria |
| ES-CM | Castilla-La Mancha |
| ES-CL | Castilla y León |
| ES-CT | Catalunya |
| ES-EX | Extremadura |
| ES-GA | Galicia |
| ES-IB | Illes Balears |
| ES-RI | La Rioja |
| ES-MD | Madrid, Comunidad de |
| ES-MC | Murcia, Región de |
| ES-NC | Navarra, Comunidad Foral de / Nafarroako Foru Komunitatea |
| ES-PV | País Vasco / Euskal Herria |
| ES-VC | Valenciana, Comunidad / Valenciana, Comunitat |
| ES-C | A Coruña |
| ES-VI | Álava |
| ES-AB | Albacete |
| ES-A | Alicante |
| ES-AL | Almería |
| ES-O | Asturias |
| ES-AV | Ávila |
| ES-BA | Badajoz |
| ES-B | Barcelona |
| ES-BU | Burgos |
| ES-CC | Cáceres |
| ES-CA | Cádiz |
| ES-S | Cantabria |
| ES-CS | Castellón |
| ES-CR | Ciudad Real |
| ES-CO | Córdoba |
| ES-CU | Cuenca |
| ES-GI | Girona |
| ES-GR | Granada |
| ES-GU | Guadalajara |
| ES-SS | Guipúzcoa / Gipuzkoa |
| ES-H | Huelva |
| ES-HU | Huesca |
| ES-J | Jaén |
| ES-LO | La Rioja |
| ES-GC | Las Palmas |
| ES-LE | León |
| ES-L | Lleida |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---|
| ES-LU | Lugo |
| ES-M | Madrid |
| ES-MA | Málaga |
| ES-MU | Murcia |
| ES-NA | Navarra / Nafarroa |
| ES-OR | Ourense |
| ES-P | Palencia |
| ES-PM | Balears |
| ES-PO | Pontevedra |
| ES-SA | Salamanca |
| ES-TF | Santa Cruz de Tenerife |
| ES-SG | Segovia |
| ES-SE | Sevilla |
| ES-SO | Soria |
| ES-T | Tarragona |
| ES-TE | Teruel |
| ES-TO | Toledo |
| ES-V | Valencia / València |
| ES-VA | Valladolid |
| ES-BI | Vizcayaa / Bizkaia |
| ES-ZA | Zamora |
| ES-Z | Zaragoza |
| ES-CE | Ceuta |
| ES-ML | Melilla |
| ET-AA | Ādīs Ābeba |
| ET-DD | Dirē Dawa |
| ET-AF | Āfar |
| ET-AM | Āmara |
| ET-BE | Bīnshangul Gumuz |
| ET-GA | Gambēla Hizboch |
| ET-HA | Hārerī Hizb |
| ET-OR | Oromīya |
| ET-SO | Sumalē |
| ET-TI | Tigray |
| ET-SN | YeDeub Bihēroch Bihēreseboch na Hizboch |
| FI-01 | Ahvenanmaan maakunta |
| FI-02 | Etelä-Karjala |
| FI-03 | Etelä-Pohjanmaa |
| FI-04 | Etelä-Savo |
| FI-05 | Kainuu |
| FI-06 | Kanta-Häme |
| FI-07 | Keski-Pohjanmaa |
| FI-08 | Keski-Suomi |
| FI-09 | Kymenlaakso |
| FI-10 | Lappi |
| FI-11 | Pirkanmaa |
| FI-12 | Pohjanmaa |
| FI-13 | Pohjois-Karjala |
| FI-14 | Pohjois-Pohjanmaa |
| FI-15 | Pohjois-Savo |
| FI-16 | Päijät-Häme |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------|
| FI-17 | Satakunta |
| FI-18 | Uusimaa |
| FI-19 | Varsinais-Suomi |
| FJ-C | Central |
| FJ-E | Eastern |
| FJ-N | Northern |
| FJ-W | Western |
| FJ-R | Rotuma |
| FM-TRK | Chuuk |
| FM-KSA | Kosrae |
| FM-PNI | Pohnpei |
| FM-YAP | Yap |
| FR-A | Alsace |
| FR-B | Aquitaine |
| FR-C | Auvergne |
| FR-P | Basse-Normandie |
| FR-D | Bourgogne |
| FR-E | Bretagne |
| FR-F | Centre |
| FR-G | Champagne-Ardenne |
| FR-H | Corse |
| FR-I | Franche-Comté |
| FR-Q | Haute-Normandie |
| FR-J | Île-de-France |
| FR-K | Languedoc-Roussillon |
| FR-L | Limousin |
| FR-M | Lorraine |
| FR-N | Midi-Pyrénées |
| FR-O | Nord - Pas-de-Calais |
| FR-R | Pays de la Loire |
| FR-S | Picardie |
| FR-T | Poitou-Charentes |
| FR-U | Provence-Alpes-Côte d'Azur |
| FR-V | Rhône-Alpes |
| FR-01 | Ain |
| FR-02 | Aisne |
| FR-03 | Allier |
| FR-04 | Alpes-de-Haute-Provence |
| FR-06 | Alpes-Maritimes |
| FR-07 | Ardèche |
| FR-08 | Ardennes |
| FR-09 | Ariège |
| FR-10 | Aube |
| FR-11 | Aude |
| FR-12 | Aveyron |
| FR-67 | Bas-Rhin |
| FR-13 | Bouches-du-Rhône |
| FR-14 | Calvados |
| FR-15 | Cantal |
| FR-16 | Charente |
| FR-17 | Charente-Maritime |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|--------------------|
| FR-18 | Cher |
| FR-19 | Corrèze |
| FR-2A | Corse-du-Sud |
| FR-21 | Côte-d'Or |
| FR-22 | Côtes-d'Armor |
| FR-23 | Creuse |
| FR-79 | Deux-Sèvres |
| FR-24 | Dordogne |
| FR-25 | Doubs |
| FR-26 | Drôme |
| FR-91 | Essonne |
| FR-27 | Eure |
| FR-28 | Eure-et-Loir |
| FR-29 | Finistère |
| FR-30 | Gard |
| FR-32 | Gers |
| FR-33 | Gironde |
| FR-2B | Haute-Corse |
| FR-31 | Haute-Garonne |
| FR-43 | Haute-Loire |
| FR-52 | Haute-Marne |
| FR-05 | Hautes-Alpes |
| FR-70 | Haute-Saône |
| FR-74 | Haute-Savoie |
| FR-65 | Hautes-Pyrénées |
| FR-87 | Haute-Vienne |
| FR-68 | Haut-Rhin |
| FR-92 | Hauts-de-Seine |
| FR-34 | Hérault |
| FR-35 | Ille-et-Vilaine |
| FR-36 | Indre |
| FR-37 | Indre-et-Loire |
| FR-38 | Isère |
| FR-39 | Jura |
| FR-40 | Landes |
| FR-41 | Loir-et-Cher |
| FR-42 | Loire |
| FR-44 | Loire-Atlantique |
| FR-45 | Loiret |
| FR-46 | Lot |
| FR-47 | Lot-et-Garonne |
| FR-48 | Lozère |
| FR-49 | Maine-et-Loire |
| FR-50 | Manche |
| FR-51 | Marne |
| FR-53 | Mayenne |
| FR-54 | Meurthe-et-Moselle |
| FR-55 | Meuse |
| FR-56 | Morbihan |
| FR-57 | Moselle |
| FR-58 | Nièvre |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-----------------------------|
| FR-59 | Nord |
| FR-60 | Oise |
| FR-61 | Orne |
| FR-75 | Paris |
| FR-62 | Pas-de-Calais |
| FR-63 | Puy-de-Dôme |
| FR-64 | Pyrénées-Atlantiques |
| FR-66 | Pyrénées-Orientales |
| FR-69 | Rhône |
| FR-71 | Saône-et-Loire |
| FR-72 | Sarthe |
| FR-73 | Savoie |
| FR-77 | Seine-et-Marne |
| FR-76 | Seine-Maritime |
| FR-93 | Seine-Saint-Denis |
| FR-80 | Somme |
| FR-81 | Tarn |
| FR-82 | Tarn-et-Garonne |
| FR-90 | Territoire de Belfort |
| FR-94 | Val-de-Marne |
| FR-95 | Val d'Oise |
| FR-83 | Var |
| FR-84 | Vaucluse |
| FR-85 | Vendée |
| FR-86 | Vienne |
| FR-88 | Vosges |
| FR-89 | Yonne |
| FR-78 | Yvelines |
| FR-GP | Guadeloupe |
| FR-GF | Guyane |
| FR-MQ | Martinique |
| FR-YT | Mayotte |
| FR-RE | Réunion |
| FR-CP | Clipperton |
| FR-NC | Nouvelle-Calédonie |
| FR-PF | Polynésie française |
| FR-BL | Saint-Barthélemy |
| FR-MF | Saint-Martin |
| FR-PM | Saint-Pierre-et-Miquelon |
| FR-TF | Terres australes françaises |
| FR-WF | Wallis-et-Futuna |
| GA-1 | Estuaire |
| GA-2 | Haut-Ogooué |
| GA-3 | Moyen-Ogooué |
| GA-4 | Ngounié |
| GA-5 | Nyanga |
| GA-6 | Ogooué-Ivindo |
| GA-7 | Ogooué-Lolo |
| GA-8 | Ogooué-Maritime |
| GA-9 | Woleu-Ntem |
| GB-ENG | England |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|------------------------|
| GB-SCT | Scotland |
| GB-WLS | Wales |
| GB-NIR | Northern Ireland |
| GB-EAW | England and Wales |
| GB-GBN | Great Britain |
| GB-UKM | United Kingdom |
| GB-BKM | Buckinghamshire |
| GB-CAM | Cambridgeshire |
| GB-CMA | Cumbria |
| GB-DBY | Derbyshire |
| GB-DEV | Devon |
| GB-DOR | Dorset |
| GB-ESX | East Sussex |
| GB-ESS | Essex |
| GB-GLS | Gloucestershire |
| GB-HAM | Hampshire |
| GB-HRT | Hertfordshire |
| GB-KEN | Kent |
| GB-LAN | Lancashire |
| GB-LEC | Leicestershire |
| GB-LIN | Lincolnshire |
| GB-NFK | Norfolk |
| GB-NYK | North Yorkshire |
| GB-NTH | Northamptonshire |
| GB-NTT | Nottinghamshire |
| GB-OXF | Oxfordshire |
| GB-SOM | Somerset |
| GB-STS | Staffordshire |
| GB-SFK | Suffolk |
| GB-SRY | Surrey |
| GB-WAR | Warwickshire |
| GB-WSX | West Sussex |
| GB-WOR | Worcestershire |
| GB-BDG | Barking and Dagenham |
| GB-BNE | Barnet |
| GB-BEX | Bexley |
| GB-BEN | Brent |
| GB-BRY | Bromley |
| GB-CMD | Camden |
| GB-CRY | Croydon |
| GB-EAL | Ealing |
| GB-ENF | Enfield |
| GB-GRE | Greenwich |
| GB-HCK | Hackney |
| GB-HMF | Hammersmith and Fulham |
| GB-HRY | Haringey |
| GB-HRW | Harrow |
| GB-HAV | Havering |
| GB-HIL | Hillingdon |
| GB-HNS | Hounslow |
| GB-ISL | Islington |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|------------------------|
| GB-KEC | Kensington and Chelsea |
| GB-KTT | Kingston upon Thames |
| GB-LBH | Lambeth |
| GB-LEW | Lewisham |
| GB-MRT | Merton |
| GB-NWM | Newham |
| GB-RDB | Redbridge |
| GB-RIC | Richmond upon Thames |
| GB-SWK | Southwark |
| GB-STN | Sutton |
| GB-TWH | Tower Hamlets |
| GB-WFT | Waltham Forest |
| GB-WND | Wandsworth |
| GB-WSM | Westminster |
| GB-BNS | Barnsley |
| GB-BIR | Birmingham |
| GB-BOL | Bolton |
| GB-BRD | Bradford |
| GB-BUR | Bury |
| GB-CLD | Calderdale |
| GB-COV | Coventry |
| GB-DNC | Doncaster |
| GB-DUD | Dudley |
| GB-GAT | Gateshead |
| GB-KIR | Kirklees |
| GB-KWL | Knowsley |
| GB-LDS | Leeds |
| GB-LIV | Liverpool |
| GB-MAN | Manchester |
| GB-NET | Newcastle upon Tyne |
| GB-NTY | North Tyneside |
| GB-OLD | Oldham |
| GB-RCH | Rochdale |
| GB-ROT | Rotherham |
| GB-SHN | St. Helens |
| GB-SLF | Salford |
| GB-SAW | Sandwell |
| GB-SFT | Sefton |
| GB-SHF | Sheffield |
| GB-SOL | Solihull |
| GB-STY | South Tyneside |
| GB-SKP | Stockport |
| GB-SND | Sunderland |
| GB-TAM | Tameside |
| GB-TRF | Trafford |
| GB-WKF | Wakefield |
| GB-WLL | Walsall |
| GB-WGN | Wigan |
| GB-WRL | Wirral |
| GB-WLV | Wolverhampton |
| GB-LND | London, City of |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------|
| GB-ABE | Aberdeen City |
| GB-ABD | Aberdeenshire |
| GB-ANS | Angus |
| GB-AGB | Argyll and Bute |
| GB-CLK | Clackmannanshire |
| GB-DGY | Dumfries and Galloway |
| GB-DND | Dundee City |
| GB-EAY | East Ayrshire |
| GB-EDU | East Dunbartonshire |
| GB-ELN | East Lothian |
| GB-ERW | East Renfrewshire |
| GB-EDH | Edinburgh, City of |
| GB-ELS | Eilean Siar |
| GB-FAL | Falkirk |
| GB-FIF | Fife |
| GB-GLG | Glasgow City |
| GB-HLD | Highland |
| GB-IVC | Inverclyde |
| GB-MLN | Midlothian |
| GB-MRY | Moray |
| GB-NAY | North Ayrshire |
| GB-NLK | North Lanarkshire |
| GB-ORK | Orkney Islands |
| GB-PKN | Perth and Kinross |
| GB-RFW | Renfrewshire |
| GB-SCB | Scottish Borders, The |
| GB-ZET | Shetland Islands |
| GB-SAY | South Ayrshire |
| GB-SLK | South Lanarkshire |
| GB-STG | Stirling |
| GB-WDU | West Dunbartonshire |
| GB-WLN | West Lothian |
| GB-ANT | Antrim |
| GB-ARD | Ards |
| GB-ARM | Armagh |
| GB-BLA | Ballymena |
| GB-BLY | Ballymoney |
| GB-BNB | Banbridge |
| GB-BFS | Belfast |
| GB-CKF | Carrickfergus |
| GB-CSR | Castlereagh |
| GB-CLR | Coleraine |
| GB-CKT | Cookstown |
| GB-CGV | Craigavon |
| GB-DRY | Derry |
| GB-DOW | Down |
| GB-DGN | Dungannon and South Tyrone |
| GB-FER | Fermanagh |
| GB-LRN | Larne |
| GB-LMV | Limavady |
| GB-LSB | Lisburn |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|------------------------------|
| GB-MFT | Magherafelt |
| GB-MYL | Moyle |
| GB-NYM | Newry and Mourne |
| GB-NTA | Newtownabbey |
| GB-NDN | North Down |
| GB-OMH | Omagh |
| GB-STB | Strabane |
| GB-BAS | Bath and North East Somerset |
| GB-BBD | Blackburn with Darwen |
| GB-BDF | Bedford |
| GB-BPL | Blackpool |
| GB-BMH | Bournemouth |
| GB-BRC | Bracknell Forest |
| GB-BNH | Brighton and Hove |
| GB-BST | Bristol, City of |
| GB-CBF | Central Bedfordshire |
| GB-CHE | Cheshire East |
| GB-CHW | Cheshire West and Chester |
| GB-CON | Cornwall |
| GB-DAL | Darlington |
| GB-DER | Derby |
| GB-DUR | Durham, County |
| GB-ERY | East Riding of Yorkshire |
| GB-HAL | Halton |
| GB-HPL | Hartlepool |
| GB-HEF | Herefordshire |
| GB-IOW | Isle of Wight |
| GB-KHL | Kingston upon Hull |
| GB-LCE | Leicester |
| GB-LUT | Luton |
| GB-MDW | Medway |
| GB-MDB | Middlesbrough |
| GB-MIK | Milton Keynes |
| GB-NEL | North East Lincolnshire |
| GB-NLN | North Lincolnshire |
| GB-NSM | North Somerset |
| GB-NBL | Northumberland |
| GB-NGM | Nottingham |
| GB-PTE | Peterborough |
| GB-PLY | Plymouth |
| GB-POL | Poole |
| GB-POR | Portsmouth |
| GB-RDG | Reading |
| GB-RCC | Redcar and Cleveland |
| GB-RUT | Rutland |
| GB-SHR | Shropshire |
| GB-SLG | Slough |
| GB-SGC | South Gloucestershire |
| GB-STH | Southampton |
| GB-SOS | Southend-on-Sea |
| GB-STT | Stockton-on-Tees |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|--|
| GB-STE | Stoke-on-Trent |
| GB-SWD | Swindon |
| GB-TFW | Telford and Wrekin |
| GB-THR | Thurrock |
| GB-TOB | Torbay |
| GB-WRT | Warrington |
| GB-WBK | West Berkshire |
| GB-WNM | Windsor and Maidenhead |
| GB-WOK | Wokingham |
| GB-YOR | York |
| GB-BGW | Blaenau Gwent |
| GB-BGE | Bridgend;Pen-y-bont ar Ogwr |
| GB-CAY | Caerphilly;Caerffili |
| GB-CRF | Cardiff;Caerdydd |
| GB-CMN | Carmarthenshire;Sir Gaerfyrddin |
| GB-CGN | Ceredigion;Sir Ceredigion |
| GB-CWY | Conwy |
| GB-DEN | Denbighshire;Sir Ddinbych |
| GB-FLN | Flintshire;Sir y Fflint |
| GB-GWN | Gwynedd |
| GB-AGY | Isle of Anglesey;Sir Ynys Môn |
| GB-MTY | Merthyr Tydfil;Merthyr Tudful |
| GB-MON | Monmouthshire;Sir Fynwy |
| GB-NTL | Neath Port Talbot;Castell-nedd Port Talbot |
| GB-NWP | Newport;Casnewydd |
| GB-PEM | Pembrokeshire;Sir Benfro |
| GB-POW | Powys |
| GB-RCT | Rhondda, Cynon, Taff;Rhondda, Cynon,Taf |
| GB-SWA | Swansea;Abertawe |
| GB-TOF | Torfaen;Torfaen |
| GB-VGL | Vale of Glamorgan, The;Bro Morgannwg |
| GB-WRX | Wrexham;Wrecsam |
| GD-01 | Saint Andrew |
| GD-02 | Saint David |
| GD-03 | Saint George |
| GD-04 | Saint John |
| GD-05 | Saint Mark |
| GD-06 | Saint Patrick |
| GD-10 | Southern Grenadine Islands |
| GE-AB | Abkhazia |
| GE-AJ | Ajaria |
| GE-TB | T'bilisi |
| GE-GU | Guria |
| GE-IM | Imeret'i |
| GE-KA | Kakhet'i |
| GE-KK | K'vemo K'art'li |
| GE-MM | Mts'khet'a-Mt'ianet'i |
| GE-RL | Racha-Lech'kumi-K'vemo Svanet'i |
| GE-SZ | Samegrelo-Zemo Svanet'i |
| GE-SJ | Samts'khe-Javakhet'i |
| GE-SK | Shida K'art'li |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|--------------------------|
| GH-AH | Ashanti |
| GH-BA | Brong-Ahafo |
| GH-CP | Central |
| GH-EP | Eastern |
| GH-AA | Greater Accra |
| GH-NP | Northern |
| GH-UE | Upper East |
| GH-UW | Upper West |
| GH-TV | Volta |
| GH-WP | Western |
| GL-KU | Kommune Kujalleq |
| GL-SM | Kommuneqarfik Sermersooq |
| GL-QA | Qaasuitsup Kommunia |
| GL-QE | Qeqqata Kommunia |
| GM-L | Lower River |
| GM-M | Central River |
| GM-N | North Bank |
| GM-U | Upper River |
| GM-W | Western |
| GM-B | Banjul |
| GN-B | Boké |
| GN-F | Faranah |
| GN-K | Kankan |
| GN-D | Kindia |
| GN-L | Labé |
| GN-M | Mamou |
| GN-N | Nzérékoré |
| GN-C | Conakry |
| GN-BE | Beyla |
| GN-BF | Boffa |
| GN-BK | Boké |
| GN-CO | Coyah |
| GN-DB | Dabola |
| GN-DL | Dalaba |
| GN-DI | Dinguiraye |
| GN-DU | Dubréka |
| GN-FA | Faranah |
| GN-FO | Forécariah |
| GN-FR | Fria |
| GN-GA | Gaoul |
| GN-GU | Guékédou |
| GN-KA | Kankan |
| GN-KE | Kérouané |
| GN-KD | Kindia |
| GN-KS | Kissidougou |
| GN-KB | Koubia |
| GN-KN | Koundara |
| GN-KO | Kouroussa |
| GN-LA | Labé |
| GN-LE | Léléouma |
| GN-LO | Lola |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|--------------------------------|
| GN-MC | Macenta |
| GN-ML | Mali |
| GN-MM | Mamou |
| GN-MD | Mandiana |
| GN-NZ | Nzérékoré |
| GN-PI | Pita |
| GN-SI | Siguiri |
| GN-TE | Télimélé |
| GN-TO | Tougué |
| GN-YO | Yomou |
| GQ-C | Región Continental |
| GQ-I | Región Insular |
| GQ-AN | Annobón |
| GQ-BN | Bioko Norte |
| GQ-BS | Bioko Sur |
| GQ-CS | Centro Sur |
| GQ-KN | Kié-Ntem |
| GQ-LI | Litoral |
| GQ-WN | Wele-Nzas |
| GR-A | Anatoliki Makedonia kai Thraki |
| GR-I | Attiki |
| GR-G | Dytiki Ellada |
| GR-C | Dytiki Makedonia |
| GR-F | Ionia Nisia |
| GR-D | Ipeiros |
| GR-B | Kentriki Makedonia |
| GR-M | Kriti |
| GR-L | Notio Aigaio |
| GR-J | Peloponnisos |
| GR-H | Stereia Ellada |
| GR-E | Thessalia |
| GR-K | Voreio Aigaio |
| GR-69 | Agio Oros |
| GR-13 | Achaia |
| GR-01 | Aitolia kai Akarnania |
| GR-11 | Argolida |
| GR-12 | Arkadia |
| GR-31 | Arta |
| GR-A1 | Attiki |
| GR-64 | Chalkidiki |
| GR-94 | Chania |
| GR-85 | Chios |
| GR-81 | Dodekanisos |
| GR-52 | Drama |
| GR-71 | Evros |
| GR-05 | Evrytania |
| GR-04 | Evvoias |
| GR-63 | Florina |
| GR-07 | Fokida |
| GR-06 | Fthiotida |
| GR-51 | Grevena |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|----------------|
| GR-14 | Ileia |
| GR-53 | Imathia |
| GR-33 | Ioannina |
| GR-91 | Irakleio |
| GR-41 | Karditsa |
| GR-56 | Kastoria |
| GR-55 | Kavala |
| GR-23 | Kefallonia |
| GR-22 | Kerkyra |
| GR-57 | Kilkis |
| GR-15 | Korinthia |
| GR-58 | Kozani |
| GR-82 | Kyklades |
| GR-16 | Lakonia |
| GR-42 | Larisa |
| GR-92 | Lasithi |
| GR-24 | Lefkada |
| GR-83 | Lesvos |
| GR-43 | Magnisia |
| GR-17 | Messinia |
| GR-59 | Pella |
| GR-61 | Pieria |
| GR-34 | Preveza |
| GR-93 | Rethymno |
| GR-73 | Rodopi |
| GR-84 | Samos |
| GR-62 | Serres |
| GR-32 | Thesprotia |
| GR-54 | Thessaloniki |
| GR-44 | Trikala |
| GR-03 | Voiotia |
| GR-72 | Xanthi |
| GR-21 | Zakynthos |
| GT-AV | Alta Verapaz |
| GT-BV | Baja Verapaz |
| GT-CM | Chimaltenango |
| GT-CQ | Chiquimula |
| GT-PR | El Progreso |
| GT-ES | Escuintla |
| GT-GU | Guatemala |
| GT-HU | Huehuetenango |
| GT-IZ | Izabal |
| GT-JA | Jalapa |
| GT-JU | Jutiapa |
| GT-PE | Petén |
| GT-QZ | Quetzaltenango |
| GT-QC | Quiché |
| GT-RE | Retalhuleu |
| GT-SA | Sacatepéquez |
| GT-SM | San Marcos |
| GT-SR | Santa Rosa |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------------------|
| GT-SO | Sololá |
| GT-SU | Suchitepéquez |
| GT-TO | Totonicapán |
| GT-ZA | Zacapa |
| GW-BS | Bissau |
| GW-L | Leste |
| GW-N | Norte |
| GW-S | Sul |
| GW-BA | Bafatá |
| GW-BM | Bíombo |
| GW-BL | Bolama |
| GW-CA | Cacheu |
| GW-GA | Gabú |
| GW-OI | Oio |
| GW-QU | Quinara |
| GW-TO | Tombali |
| GY-BA | Barima-Waini |
| GY-CU | Cuyuni-Mazaruni |
| GY-DE | Demerara-Mahaica |
| GY-EB | East Berbice-Corentyne |
| GY-ES | Essequibo Islands-West Demerara |
| GY-MA | Mahaica-Berbice |
| GY-PM | Pomeroon-Supenaam |
| GY-PT | Potaro-Siparuni |
| GY-UD | Upper Demerara-Berbice |
| GY-UT | Upper Takutu-Upper Essequibo |
| HN-AT | Atlántida |
| HN-CL | Colón |
| HN-CM | Comayagua |
| HN-CP | Copán |
| HN-CR | Cortés |
| HN-CH | Choluteca |
| HN-EP | El Paraíso |
| HN-FM | Francisco Morazán |
| HN-GD | Gracias a Dios |
| HN-IN | Intibucá |
| HN-IB | Islas de la Bahía |
| HN-LP | La Paz |
| HN-LE | Lempira |
| HN-OC | Ocotepeque |
| HN-OL | Olancho |
| HN-SB | Santa Bárbara |
| HN-VA | Valle |
| HN-YO | Yoro |
| HR-21 | Grad Zagreb |
| HR-07 | Bjelovarsko-bilogorska županija |
| HR-12 | Brodsko-posavska županija |
| HR-19 | Dubrovačko-neretvanska županija |
| HR-18 | Istarska županija |
| HR-04 | Karlovačka županija |
| HR-06 | Koprivničko-križevačka županija |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|--------------------------------|
| HR-02 | Krapinsko-zagorska županija |
| HR-09 | Ličko-senjska županija |
| HR-20 | Međimurska županija |
| HR-14 | Osječko-baranjska županija |
| HR-11 | Požeško-slavonska županija |
| HR-08 | Primorsko-goranska županija |
| HR-03 | Sisačko-moslavačka županija |
| HR-17 | Splitsko-dalmatinska županija |
| HR-15 | Šibensko-kninska županija |
| HR-05 | Varaždinska županija |
| HR-10 | Virovitičko-podravska županija |
| HR-16 | Vukovarsko-srijemska županija |
| HR-13 | Zadarska županija |
| HR-01 | Zagrebačka županija |
| HT-AR | Artibonite |
| HT-CE | Centre |
| HT-GA | Grande-Anse |
| HT-ND | Nord |
| HT-NE | Nord-Est |
| HT-NO | Nord-Ouest |
| HT-OU | Ouest |
| HT-SD | Sud |
| HT-SE | Sud-Est |
| HU-BK | Bács-Kiskun |
| HU-BA | Baranya |
| HU-BE | Békés |
| HU-BZ | Borsod-Abaúj-Zemplén |
| HU-CS | Csongrád |
| HU-FE | Fejér |
| HU-GS | Győr-Moson-Sopron |
| HU-HB | Hajdú-Bihar |
| HU-HE | Heves |
| HU-JN | Jász-Nagykun-Szolnok |
| HU-KE | Komárom-Esztergom |
| HU-NO | Nógrád |
| HU-PE | Pest |
| HU-SO | Somogy |
| HU-SZ | Szabolcs-Szatmár-Bereg |
| HU-TO | Tolna |
| HU-VA | Vas |
| HU-VE | Veszprém (county) |
| HU-ZA | Zala |
| HU-BC | Békéscsaba |
| HU-DE | Debrecen |
| HU-DU | Dunaújváros |
| HU-EG | Eger |
| HU-ER | Érd |
| HU-GY | Győr |
| HU-HV | Hódmezővásárhely |
| HU-KV | Kaposvár |
| HU-KM | Kecskemét |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------|
| HU-MI | Miskolc |
| HU-NK | Nagykanizsa |
| HU-NY | Nyíregyháza |
| HU-PS | Pécs |
| HU-ST | Salgótarján |
| HU-SN | Sopron |
| HU-SD | Szeged |
| HU-SF | Székesfehérvár |
| HU-SS | Szekszárd |
| HU-SK | Szolnok |
| HU-SH | Szombathely |
| HU-TB | Tatabánya |
| HU-VM | Veszprém |
| HU-ZE | Zalaegerszeg |
| HU-BU | Budapest |
| ID-JW | Jawa |
| ID-KA | Kalimantan |
| ID-ML | Maluku |
| ID-NU | Nusa Tenggara |
| ID-IJ | Papua |
| ID-SL | Sulawesi |
| ID-SM | Sumatera |
| ID-AC | Aceh |
| ID-BA | Bali |
| ID-BB | Bangka Belitung |
| ID-BT | Banten |
| ID-BE | Bengkulu |
| ID-GO | Gorontalo |
| ID-JA | Jambi |
| ID-JB | Jawa Barat |
| ID-JT | Jawa Tengah |
| ID-JI | Jawa Timur |
| ID-KB | Kalimantan Barat |
| ID-KT | Kalimantan Tengah |
| ID-KS | Kalimantan Selatan |
| ID-KI | Kalimantan Timur |
| ID-KR | Kepulauan Riau |
| ID-LA | Lampung |
| ID-MA | Maluku |
| ID-MU | Maluku Utara |
| ID-NB | Nusa Tenggara Barat |
| ID-NT | Nusa Tenggara Timur |
| ID-PA | Papua |
| ID-PB | Papua Barat |
| ID-RI | Riau |
| ID-SR | Sulawesi Barat |
| ID-SN | Sulawesi Selatan |
| ID-ST | Sulawesi Tengah |
| ID-SG | Sulawesi Tenggara |
| ID-SA | Sulawesi Utara |
| ID-SB | Sumatra Barat |

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Table A.5.1 – continued from previous page

| Key | Description |
|-------|----------------------|
| ID-SS | Sumatra Selatan |
| ID-SU | Sumatera Utara |
| ID-JK | Jakarta Raya |
| ID-YO | Yogyakarta |
| IE-C | Connacht |
| IE-L | Leinster |
| IE-M | Munster |
| IE-U | Ulster |
| IE-CW | Carlow |
| IE-CN | Cavan |
| IE-CE | Clare |
| IE-CO | Cork |
| IE-DL | Donegal |
| IE-D | Dublin |
| IE-G | Galway |
| IE-KY | Kerry |
| IE-KE | Kildare |
| IE-KK | Kilkenny |
| IE-LS | Laois |
| IE-LM | Leitrim |
| IE-LK | Limerick |
| IE-LD | Longford |
| IE-LH | Louth |
| IE-MO | Mayo |
| IE-MH | Meath |
| IE-MN | Monaghan |
| IE-OY | Offaly |
| IE-RN | Roscommon |
| IE-SO | Sligo |
| IE-TA | Tipperary |
| IE-WD | Waterford |
| IE-WH | Westmeath |
| IE-WX | Wexford |
| IE-WW | Wicklow |
| IL-D | HaDarom |
| IL-M | HaMerkaz |
| IL-Z | HaZafon |
| IL-HA | Hefa |
| IL-TA | Tel-Aviv |
| IL-JM | Yerushalayim Al Quds |
| IN-AP | Andhra Pradesh |
| IN-AR | Arunachal Pradesh |
| IN-AS | Assam |
| IN-BR | Bihar |
| IN-CT | Chhattisgarh |
| IN-GA | Goa |
| IN-GJ | Gujarat |
| IN-HR | Haryana |
| IN-HP | Himachal Pradesh |
| IN-JK | Jammu and Kashmir |
| IN-JH | Jharkhand |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|-----------------------------|
| IN-KA | Karnataka |
| IN-KL | Kerala |
| IN-MP | Madhya Pradesh |
| IN-MH | Maharashtra |
| IN-MN | Manipur |
| IN-ML | Meghalaya |
| IN-MZ | Mizoram |
| IN-NL | Nagaland |
| IN-OR | Orissa |
| IN-PB | Punjab |
| IN-RJ | Rajasthan |
| IN-SK | Sikkim |
| IN-TN | Tamil Nadu |
| IN-TR | Tripura |
| IN-UT | Uttarakhand |
| IN-UP | Uttar Pradesh |
| IN-WB | West Bengal |
| IN-AN | Andaman and Nicobar Islands |
| IN-CH | Chandigarh |
| IN-DN | Dadra and Nagar Haveli |
| IN-DD | Damen and Diu |
| IN-DL | Delhi |
| IN-LD | Lakshadweep |
| IN-PY | Puducherry |
| IQ-AN | Al Anbar |
| IQ-BA | Al Basrah |
| IQ-MU | Al Muthanna |
| IQ-QA | Al Qadisiyah |
| IQ-NA | An Najef |
| IQ-AR | Arbil |
| IQ-SW | As Sulaymaniyah |
| IQ-TS | At Ta'mim |
| IQ-BB | Babil |
| IQ-BG | Baghdad |
| IQ-DA | Dahuk |
| IQ-DQ | Dhi Qar |
| IQ-DI | Diyala |
| IQ-KA | Karbala' |
| IQ-MA | Maysan |
| IQ-NI | Ninawa |
| IQ-SD | Salah ad Din |
| IQ-WA | Wasit |
| IR-03 | Ardabīl |
| IR-02 | Āzərbāyjān-e Gharbī |
| IR-01 | Āzərbāyjān-e Sharqī |
| IR-06 | Būshehr |
| IR-08 | Chahār Mahāll va Bakhtīārī |
| IR-04 | Eşfahān |
| IR-14 | Fārs |
| IR-19 | Gīlān |
| IR-27 | Golestān |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------------|
| IR-24 | Hamadān |
| IR-23 | Hormozgān |
| IR-05 | īlām |
| IR-15 | Kermān |
| IR-17 | Kermānshāh |
| IR-29 | Khorāsān-e Janūbī |
| IR-30 | Khorāsān-e Razavī |
| IR-31 | Khorāsān-e Shemālī |
| IR-10 | Khūzestān |
| IR-18 | Kohgiluyeh va Büyer Ahmad |
| IR-16 | Kordestān |
| IR-20 | Lorestān |
| IR-22 | Markazī |
| IR-21 | Māzandarān |
| IR-28 | Qazvīn |
| IR-26 | Qom |
| IR-12 | Semnān |
| IR-13 | Sīstān va Balūchestān |
| IR-07 | Tehrān |
| IR-25 | Yazd |
| IR-11 | Zanjān |
| IS-7 | Austurland |
| IS-1 | Höfuðborgarsvæðið |
| IS-6 | Norðurland eystra |
| IS-5 | Norðurland vestra |
| IS-8 | Suðurland |
| IS-2 | Suðurnes |
| IS-4 | Vestfirðir |
| IS-3 | Vesturland |
| IS-0 | Reykjavík |
| IT-65 | Abruzzo |
| IT-77 | Basilicata |
| IT-78 | Calabria |
| IT-72 | Campania |
| IT-45 | Emilia-Romagna |
| IT-36 | Friuli-Venezia Giulia |
| IT-62 | Lazio |
| IT-42 | Liguria |
| IT-25 | Lombardia |
| IT-57 | Marche |
| IT-67 | Molise |
| IT-21 | Piemonte |
| IT-75 | Puglia |
| IT-88 | Sardegna |
| IT-82 | Sicilia |
| IT-52 | Toscana |
| IT-32 | Trentino-Alto Adige |
| IT-55 | Umbria |
| IT-23 | Valle d'Aosta |
| IT-34 | Veneto |
| IT-AG | Agrigento |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|-----------------------|
| IT-AL | Alessandria |
| IT-AN | Ancona |
| IT-AO | Aosta |
| IT-AR | Arezzo |
| IT-AP | Ascoli Piceno |
| IT-AT | Asti |
| IT-AV | Avellino |
| IT-BA | Bari |
| IT-BT | Barletta-Andria-Trani |
| IT-BL | Belluno |
| IT-BN | Benevento |
| IT-BG | Bergamo |
| IT-BI | Biella |
| IT-BO | Bologna |
| IT-BZ | Bolzano |
| IT-BS | Brescia |
| IT-BR | Brindisi |
| IT-CA | Cagliari |
| IT-CL | Caltanissetta |
| IT-CB | Campobasso |
| IT-CI | Carbonia-Iglesias |
| IT-CE | Caserta |
| IT-CT | Catania |
| IT-CZ | Catanzaro |
| IT-CH | Chieti |
| IT-CO | Como |
| IT-CS | Cosenza |
| IT-CR | Cremona |
| IT-KR | Crotone |
| IT-CN | Cuneo |
| IT-EN | Enna |
| IT-FM | Fermo |
| IT-FE | Ferrara |
| IT-FI | Firenze |
| IT-FG | Foggia |
| IT-FC | Forlì-Cesena |
| IT-FR | Frosinone |
| IT-GE | Genova |
| IT-GO | Gorizia |
| IT-GR | Grosseto |
| IT-IM | Imperia |
| IT-IS | Isernia |
| IT-SP | La Spezia |
| IT-AQ | L'Aquila |
| IT-LT | Latina |
| IT-LE | Lecce |
| IT-LC | Lecco |
| IT-LI | Livorno |
| IT-LO | Lodi |
| IT-LU | Lucca |
| IT-MC | Macerata |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|-----------------|
| IT-MN | Mantova |
| IT-MS | Massa-Carrara |
| IT-MT | Matera |
| IT-VS | Medio Campidano |
| IT-ME | Messina |
| IT-MI | Milano |
| IT-MO | Modena |
| IT-MB | Monza e Brianza |
| IT-NA | Napoli |
| IT-NO | Novara |
| IT-NU | Nuoro |
| IT-OG | Ogliastra |
| IT-OT | Olbia-Tempio |
| IT-OR | Oristano |
| IT-PD | Padova |
| IT-PA | Palermo |
| IT-PR | Parma |
| IT-PV | Pavia |
| IT-PG | Perugia |
| IT-PU | Pesaro e Urbino |
| IT-PE | Pescara |
| IT-PC | Piacenza |
| IT-PI | Pisa |
| IT-PT | Pistoia |
| IT-PN | Pordenone |
| IT-PZ | Potenza |
| IT-PO | Prato |
| IT-RG | Ragusa |
| IT-RA | Ravenna |
| IT-RC | Reggio Calabria |
| IT-RE | Reggio Emilia |
| IT-RI | Rieti |
| IT-RN | Rimini |
| IT-RM | Roma |
| IT-RO | Rovigo |
| IT-SA | Salerno |
| IT-SS | Sassari |
| IT-SV | Savona |
| IT-SI | Siena |
| IT-SR | Siracusa |
| IT-SO | Sondrio |
| IT-TA | Taranto |
| IT-TE | Teramo |
| IT-TR | Terni |
| IT-TO | Torino |
| IT-TP | Trapani |
| IT-TN | Trento |
| IT-TV | Treviso |
| IT-TS | Trieste |
| IT-UD | Udine |
| IT-VA | Varese |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|----------------------|
| IT-VE | Venezia |
| IT-VB | Verbano-Cusio-Ossola |
| IT-VC | Vercelli |
| IT-VR | Verona |
| IT-VV | Vibo Valentia |
| IT-VI | Vicenza |
| IT-VT | Viterbo |
| JM-13 | Clarendon |
| JM-09 | Hanover |
| JM-01 | Kingston |
| JM-12 | Manchester |
| JM-04 | Portland |
| JM-02 | Saint Andrew |
| JM-06 | Saint Ann |
| JM-14 | Saint Catherine |
| JM-11 | Saint Elizabeth |
| JM-08 | Saint James |
| JM-05 | Saint Mary |
| JM-03 | Saint Thomas |
| JM-07 | Trelawny |
| JM-10 | Westmoreland |
| JO-AJ | 'Ajlūn |
| JO-AQ | Al 'Aqabah |
| JO-BA | Al Balqā' |
| JO-KA | Al Karak |
| JO-MA | Al Mafraq |
| JO-AM | 'Ammān (Al 'Aṣimah) |
| JO-AT | Aṭ Ṗaṭṭalah |
| JO-AZ | Az Zarqā' |
| JO-IR | Irbid |
| JO-JA | Jarash |
| JO-MN | Ma'ān |
| JO-MD | Mādabā |
| JP-23 | Aichi |
| JP-05 | Akita |
| JP-02 | Aomori |
| JP-12 | Chiba |
| JP-38 | Ehime |
| JP-18 | Fukui |
| JP-40 | Fukuoka |
| JP-07 | Fukushima |
| JP-21 | Gifu |
| JP-10 | Gunma |
| JP-34 | Hiroshima |
| JP-01 | Hokkaido |
| JP-28 | Hyogo |
| JP-08 | Ibaraki |
| JP-17 | Ishikawa |
| JP-03 | Iwate |
| JP-37 | Kagawa |
| JP-46 | Kagoshima |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-----------------------------------|
| JP-14 | Kanagawa |
| JP-39 | Kochi |
| JP-43 | Kumamoto |
| JP-26 | Kyoto |
| JP-24 | Mie |
| JP-04 | Miyagi |
| JP-45 | Miyazaki |
| JP-20 | Nagano |
| JP-42 | Nagasaki |
| JP-29 | Nara |
| JP-15 | Niigata |
| JP-44 | Oita |
| JP-33 | Okayama |
| JP-47 | Okinawa |
| JP-27 | Osaka |
| JP-41 | Saga |
| JP-11 | Saitama |
| JP-25 | Shiga |
| JP-32 | Shimane |
| JP-22 | Shizuoka |
| JP-09 | Tochigi |
| JP-36 | Tokushima |
| JP-13 | Tokyo |
| JP-31 | Tottori |
| JP-16 | Toyama |
| JP-30 | Wakayama |
| JP-06 | Yamagata |
| JP-35 | Yamaguchi |
| JP-19 | Yamanashi |
| KE-110 | Nairobi Municipality |
| KE-200 | Central |
| KE-300 | Coast |
| KE-400 | Eastern |
| KE-500 | North-Eastern Kaskazini Mashariki |
| KE-700 | Rift Valley |
| KE-800 | Western Magharibi |
| KG-GB | Bishkek |
| KG-B | Batken |
| KG-C | Chü |
| KG-J | Jalal-Abad |
| KG-N | Naryn |
| KG-O | Osh |
| KG-T | Talas |
| KG-Y | Ysyk-Köl |
| KH-23 | Krong Kaeb |
| KH-24 | Krong Pailin |
| KH-18 | Krong Preah Sihanouk |
| KH-12 | Phnom Penh |
| KH-2 | Battambang |
| KH-1 | Banteay Mean Chey |
| KH-3 | Kampong Cham |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|----------------------------|
| KH-4 | Kampong Chhnang |
| KH-5 | Kampong Speu |
| KH-6 | Kampong Thom |
| KH-7 | Kampot |
| KH-8 | Kandal |
| KH-9 | Kach Kong |
| KH-10 | Krachoh |
| KH-11 | Mondol Kiri |
| KH-22 | Otdar Mean Chey |
| KH-15 | Pousaat |
| KH-13 | Preah Vihear |
| KH-14 | Prey Veaeng |
| KH-16 | Rotanak Kiri |
| KH-17 | Siem Reab |
| KH-19 | Stueng Traeng |
| KH-20 | Svaay Rieng |
| KH-21 | Taakaev |
| KI-G | Gilbert Islands |
| KI-L | Line Islands |
| KI-P | Phoenix Islands |
| KN-K | Saint Kitts |
| KN-N | Nevis |
| KN-01 | Christ Church Nichola Town |
| KN-02 | Saint Anne Sandy Point |
| KN-03 | Saint George Basseterre |
| KN-04 | Saint George Gingerland |
| KN-05 | Saint James Windward |
| KN-06 | Saint John Capisterre |
| KN-07 | Saint John Figtree |
| KN-08 | Saint Mary Cayon |
| KN-09 | Saint Paul Capisterre |
| KN-10 | Saint Paul Charlestown |
| KN-11 | Saint Peter Basseterre |
| KN-12 | Saint Thomas Lowland |
| KN-13 | Saint Thomas Middle Island |
| KN-15 | Trinity Palmetto Point |
| KM-A | Andjouân (Anjwān) |
| KM-G | Andjazîdja (Anjazîjah) |
| KM-M | Moûhîlî (Mûhîlî) |
| KP-01 | P'yöngyang |
| KP-13 | Nasön (Najin-Sönbong) |
| KP-02 | P'yöngan-namdo |
| KP-03 | P'yöngan-bukto |
| KP-04 | Chagang-do |
| KP-05 | Hwanghae-namdo |
| KP-06 | Hwanghae-bukto |
| KP-07 | Kangwon-do |
| KP-08 | Hamgyöng-namdo |
| KP-09 | Hamgyöng-bukto |
| KP-10 | Yanggang-do |
| KR-11 | Seoul Teugbyeolsi |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------|
| KR-26 | Busan Gwang'yeogsi |
| KR-27 | Daegu Gwang'yeogsi |
| KR-30 | Daejeon Gwang'yeogsi |
| KR-29 | Gwangju Gwang'yeogsi |
| KR-28 | Incheon Gwang'yeogsi |
| KR-31 | Ulsan Gwang'yeogsi |
| KR-43 | Chungcheongbukdo |
| KR-44 | Chungcheongnamdo |
| KR-42 | Gang'weondo |
| KR-41 | Gyeonggido |
| KR-47 | Gyeongsangbukdo |
| KR-48 | Gyeongsangnamdo |
| KR-49 | Jejudo |
| KR-45 | Jeonrabukdo |
| KR-46 | Jeonranamdo |
| KW-AH | Al Ahmadi |
| KW-FA | Al Farwānīyah |
| KW-JA | Al Jahrrā' |
| KW-KU | Al Kuwayt (Al 'Āṣimah) |
| KW-HA | Hawallī |
| KW-MU | Mubārak al Kabīr |
| KZ-ALA | Almaty |
| KZ-AST | Astana |
| KZ-ALM | Almaty oblysy |
| KZ-AKM | Aqmola oblysy |
| KZ-AKT | Aqtöbe oblysy |
| KZ-ATY | Atyraū oblysy |
| KZ-ZAP | Batys Quzaqstan oblysy |
| KZ-MAN | Mangghystaū oblysy |
| KZ-YUZ | Ongtüstik Qazaqstan oblysy |
| KZ-PAV | Pavlodar oblysy |
| KZ-KAR | Qaraghandy oblysy |
| KZ-KUS | Qostanay oblysy |
| KZ-KZY | Qyzylorda oblysy |
| KZ-VOS | Shyghys Qazaqstan oblysy |
| KZ-SEV | Soltüstik Quzaqstan oblysy |
| KZ-ZHA | Zhambyl oblysy |
| LA-VT | Vientiane |
| LA-AT | Attapu |
| LA-BK | Bokèo |
| LA-BL | Bolikhhamxai |
| LA-CH | Champasak |
| LA-HO | Houaphan |
| LA-KH | Khammouan |
| LA-LM | Louang Namtha |
| LA-LP | Louangphabang |
| LA-OU | Oudômxai |
| LA-PH | Phêngsali |
| LA-SL | Salavan |
| LA-SV | Savannakhét |
| LA-VI | Vientiane |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------|
| LA-XA | Xaignabouli |
| LA-XE | Xékong |
| LA-XI | Xiangkhoang |
| LA-XN | Xiasômbooun |
| LI-01 | Balzers |
| LI-02 | Eschen |
| LI-03 | Gamprin |
| LI-04 | Mauren |
| LI-05 | Planken |
| LI-06 | Ruggell |
| LI-07 | Schaan |
| LI-08 | Schellenberg |
| LI-09 | Triesen |
| LI-10 | Triesenberg |
| LI-11 | Vaduz |
| LB-AK | Aakkâr |
| LB-BH | Baalbek-Hermel |
| LB-BI | Béqaa |
| LB-BA | Beyrouth |
| LB-AS | Liban-Nord |
| LB-JA | Liban-Sud |
| LB-JL | Mont-Liban |
| LB-NA | Nabaťyé |
| LK-1 | Basnâhira pa āta |
| LK-3 | Daku u pa āta |
| LK-2 | Madhyama pa āta |
| LK-5 | Nægénahira pa āta |
| LK-9 | Sabaragamuva pa āta |
| LK-7 | Uturumæda pa āta |
| LK-4 | Uturu pa āta |
| LK-8 | Ūva pa āta |
| LK-6 | Vayamba pa āta |
| LK-52 | Ampāara |
| LK-71 | Anurādhapura |
| LK-81 | Badulla |
| LK-51 | Mađakalapuva |
| LK-11 | Kō amba |
| LK-31 | Gälla |
| LK-12 | Gampaha |
| LK-33 | Hambantöta |
| LK-41 | Yāpanaya |
| LK-13 | Ka utara |
| LK-21 | Mahanuvara |
| LK-92 | Kægalla |
| LK-42 | Kilinōchchi |
| LK-61 | Kuru ægala |
| LK-43 | Mannārama |
| LK-22 | Mātale |
| LK-32 | Mātara |
| LK-82 | Mō arāgala |
| LK-45 | Mulativ |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|------------------------|
| LK-23 | Nuvara Ěliya |
| LK-72 | Põ önnaruva |
| LK-62 | Puttalama |
| LK-91 | Ratnapura |
| LK-53 | Triku āmalaya |
| LK-44 | Vavuniyāva |
| LR-BM | Bomi |
| LR-BG | Bong |
| LR-GB | Grand Bassa |
| LR-CM | Grand Cape Mount |
| LR-GG | Grand Gedeh |
| LR-GK | Grand Kru |
| LR-LO | Lofa |
| LR-MG | Margibi |
| LR-MY | Maryland |
| LR-MO | Montserrado |
| LR-NI | Nimba |
| LR-RI | Rivercess |
| LR-SI | Sinoe |
| LS-D | Berea |
| LS-B | Butha-Buthe |
| LS-C | Leribe |
| LS-E | Mafeteng |
| LS-A | Maseru |
| LS-F | Mohale's Hoek |
| LS-J | Mokhotlong |
| LS-H | Qacha's Nek |
| LS-G | Quthing |
| LS-K | Thaba-Tseka |
| LT-AL | Alytaus Apskritis |
| LT-KU | Kauno Apskritis |
| LT-KL | Klaipėdos Apskritis |
| LT-MR | Marijampolės Apskritis |
| LT-PN | Panevėžio Apskritis |
| LT-SA | Šiaulių Apskritis |
| LT-TA | Tauragės Apskritis |
| LT-TE | Telšių Apskritis |
| LT-UT | Utenos Apskritis |
| LT-VL | Vilniaus Apskritis |
| LU-D | Diekirch |
| LU-G | Grevenmacher |
| LU-L | Luxembourg |
| LV-001 | Aglonas novads |
| LV-002 | Aizkraukles novads |
| LV-003 | Aizputes novads |
| LV-004 | Aknīstes novads |
| LV-005 | Alojas novads |
| LV-006 | Alsungas novads |
| LV-007 | Alūksnes novads |
| LV-008 | Amatas novads |
| LV-009 | Apes novads |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------|
| LV-010 | Auces novads |
| LV-011 | Ādažu novads |
| LV-012 | Babītes novads |
| LV-013 | Baldones novads |
| LV-014 | Baltinavas novads |
| LV-015 | Balvu novads |
| LV-016 | Bauskas novads |
| LV-017 | Beverīnas novads |
| LV-018 | Brocēnu novads |
| LV-019 | Burtnieku novads |
| LV-020 | Carnikavas novads |
| LV-021 | Cesvaines novads |
| LV-022 | Cēsu novads |
| LV-023 | Ciblas novads |
| LV-024 | Dagdas novads |
| LV-025 | Daugavpils novads |
| LV-026 | Dobeles novads |
| LV-027 | Dundagas novads |
| LV-028 | Durbes novads |
| LV-029 | Engures novads |
| LV-030 | Ērgļu novads |
| LV-031 | Garkalnes novads |
| LV-032 | Grobiņas novads |
| LV-033 | Gulbenes novads |
| LV-034 | Iecavas novads |
| LV-035 | Ikšķiles novads |
| LV-036 | Ilūkstes novads |
| LV-037 | Inčukalna novads |
| LV-038 | Jaunjelgavas novads |
| LV-039 | Jaunpiebalgas novads |
| LV-040 | Jaunpils novads |
| LV-041 | Jelgavas novads |
| LV-042 | Jēkabpils novads |
| LV-043 | Kandavas novads |
| LV-044 | Kārsavas novads |
| LV-045 | Kocēnu novads |
| LV-046 | Kokneses novads |
| LV-047 | Krāslavas novads |
| LV-048 | Krimuldas novads |
| LV-049 | Krustpils novads |
| LV-050 | Kuldīgas novads |
| LV-051 | Ķeguma novads |
| LV-052 | Ķekavas novads |
| LV-053 | Lielvārdes novads |
| LV-054 | Limbažu novads |
| LV-055 | Līgatnes novads |
| LV-056 | Līvānu novads |
| LV-057 | Lubānas novads |
| LV-058 | Ludzas novads |
| LV-059 | Madonas novads |
| LV-060 | Mazsalacas novads |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------|
| LV-061 | Mālpils novads |
| LV-062 | Mārupes novads |
| LV-063 | Mērsraga novads |
| LV-064 | Naukšēnu novads |
| LV-065 | Neretas novads |
| LV-066 | Nīcas novads |
| LV-067 | Ogres novads |
| LV-068 | Olaines novads |
| LV-069 | Ozolnieku novads |
| LV-070 | Pārgaujas novads |
| LV-071 | Pāvilostas novads |
| LV-072 | Pļaviņu novads |
| LV-073 | Preiļu novads |
| LV-074 | Priekules novads |
| LV-075 | Priekuļu novads |
| LV-076 | Raunas novads |
| LV-077 | Rēzeknes novads |
| LV-078 | Riebiņu novads |
| LV-079 | Rojas novads |
| LV-080 | Ropažu novads |
| LV-081 | Rucavas novads |
| LV-082 | Rugāju novads |
| LV-083 | Rundāles novads |
| LV-084 | Rūjienas novads |
| LV-085 | Salas novads |
| LV-086 | Salacgrīvas novads |
| LV-087 | Salaspils novads |
| LV-088 | Saldus novads |
| LV-089 | Saulkrastu novads |
| LV-090 | Sējas novads |
| LV-091 | Siguldas novads |
| LV-092 | Skrīveru novads |
| LV-093 | Skrundas novads |
| LV-094 | Smiltenes novads |
| LV-095 | Stopiņu novads |
| LV-096 | Strenču novads |
| LV-097 | Talsu novads |
| LV-098 | Tērvetes novads |
| LV-099 | Tukuma novads |
| LV-100 | Vaiņodes novads |
| LV-101 | Valkas novads |
| LV-102 | Varakļānu novads |
| LV-103 | Vārkavas novads |
| LV-104 | Vecpiebalgas novads |
| LV-105 | Vecumnieku novads |
| LV-106 | Ventspils novads |
| LV-107 | Viesītes novads |
| LV-108 | Viļakas novads |
| LV-109 | Viļānu novads |
| LV-110 | Zilupes novads |
| LV-DGV | Daugavpils |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------------|
| LV-JEL | Jelgava |
| LV-JKB | Jēkabpils |
| LV-JUR | Jūrmala |
| LV-LPX | Liepāja |
| LV-REZ | Rēzekne |
| LV-RIX | Rīga |
| LV-VMR | Valmiera |
| LV-VEN | Ventspils |
| LY-BU | Al Buṭnān |
| LY-JA | Al Jabal al Akh ar |
| LY-JG | Al Jabal al Gharbī |
| LY-JI | Al Jifārah |
| LY-JU | Al Jufrāh |
| LY-KF | Al Kufrah |
| LY-MJ | Al Marj |
| LY-MB | Al Marqab |
| LY-WA | Al Wāhāt |
| LY-NQ | An Nuqaṭ al Khams |
| LY-ZA | Az Zāwiyah |
| LY-BA | Banghāzī |
| LY-DR | Darnah |
| LY-GT | Ghāt |
| LY-JB | Jaghbūb |
| LY-MI | Miṣrātah |
| LY-MQ | Murzuq |
| LY-NL | Nālūt |
| LY-SB | Sabħā |
| LY-SR | Surt |
| LY-TB | Tarābulus |
| LY-WD | Wādī al ayāt |
| LY-WS | Wādī ash Shāṭī |
| MA-09 | Chaouia-Ouardigha |
| MA-10 | Doukhala-Abda |
| MA-05 | Fès-Boulemane |
| MA-02 | Gharb-Charda-Beni Hssen |
| MA-08 | Grand Casablanca |
| MA-14 | Guelmim-És Smara |
| MA-15 | Laâyoune-Boujdour-Sakia el Hamra |
| MA-04 | L'Oriental |
| MA-11 | Marrakech-Tensift-Al Haouz |
| MA-06 | Meknès-Tafilalet |
| MA-16 | Oued ed Dahab-Lagouira |
| MA-07 | Rabat-Salé-Zemmour-Zaer |
| MA-13 | Sous-Massa-Draa |
| MA-12 | Tadla-Azilal |
| MA-01 | Tanger-Tétouan |
| MA-03 | Taza-Al Hoceima-Taounate |
| MA-HAO | Al Haouz |
| MA-HOC | Al Hoceīma |
| MA-ASZ | Assa-Zag |
| MA-AZI | Azilal |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------------|
| MA-BEM | Beni Mellal |
| MA-BES | Ben Slimane |
| MA-BER | Berkane |
| MA-BOD | Boujdour (EH) |
| MA-BOM | Boulemane |
| MA-CHE | Chefchaouen |
| MA-CHI | Chichaoua |
| MA-CHT | Chtouka-Ait Bahia |
| MA-HAJ | El Hajeb |
| MA-JDI | El Jadida |
| MA-ERR | Errachidia |
| MA-ESI | Essaouira |
| MA-ESM | Es Smara (EH) |
| MA-FIG | Figuig |
| MA-GUE | Guelmim |
| MA-IFR | Ifrane |
| MA-JRA | Jrada |
| MA-KES | Kelaat es Sraghna |
| MA-KEN | Kénitra |
| MA-KHE | Khemisaet |
| MA-KHN | Khenifra |
| MA-KHO | Khouribga |
| MA-LAA | Laâyoune (EH) |
| MA-LAR | Larache |
| MA-MED | Médiouna |
| MA-MOU | Moulay Yacoub |
| MA-NAD | Nador |
| MA-NOU | Nouaceur |
| MA-OUA | Ouarzazate |
| MA-OUD | Oued ed Dahab (EH) |
| MA-SAF | Safi |
| MA-SEF | Sefrou |
| MA-SET | Settat |
| MA-SIK | Sidiki Kacem |
| MA-TNT | Tan-Tan |
| MA-TAO | Taounate |
| MA-TAI | Taourirt |
| MA-TAR | Taroudant |
| MA-TAT | Tata |
| MA-TAZ | Taza |
| MA-TIZ | Tiznit |
| MA-ZAG | Zagora |
| MA-AGD | Agadir-Ida-Outanane |
| MA-AOU | Aousserd |
| MA-CAS | Casablanca [Dar el Beïda] |
| MA-FAH | Fahs-Beni Makada |
| MA-FES | Fès-Dar-Dbibegh |
| MA-INE | Inezgane-Ait Melloul |
| MA-MMD | Marrakech-Medina |
| MA-MMN | Marrakech-Menara |
| MA-MEK | Meknès |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---|
| MA-MOH | Mohammadia |
| MA-OUJ | Oujda-Angad |
| MA-RAB | Rabat |
| MA-SAL | Salé |
| MA-SYB | Sidi Youssef Ben Ali |
| MA-SKH | Skhirate-Témara |
| MA-TNG | Tanger-Assilah |
| MA-TET | Tétouan |
| MC-CO | La Condamine |
| MC-FO | Fontvieille |
| MC-JE | Jardin Exotique |
| MC-CL | La Colle |
| MC-GA | La Gare |
| MC-SO | La Source |
| MC-LA | Larvotto |
| MC-MA | Malbousquet |
| MC-MO | Monaco-Ville |
| MC-MG | Moneghetti |
| MC-MC | Monte-Carlo |
| MC-MU | Moulins |
| MC-PH | Port-Hercule |
| MC-SR | Saint-Roman |
| MC-SD | Sainte-Dévote |
| MC-SP | Spélugues |
| MC-VR | Vallon de la Rousse |
| MD-GA | Găgăuzia, Unitatea teritorială autonomă |
| MD-BA | Bălți |
| MD-BD | Tighina |
| MD-CU | Chișinău |
| MD-AN | Anenii Noi |
| MD-BS | Basarabeasca |
| MD-BR | Briceni |
| MD-CA | Cahul |
| MD-CT | Cantemir |
| MD-CL | Călărași |
| MD-CS | Căușeni |
| MD-CM | Cimișlia |
| MD-CR | Criuleni |
| MD-DO | Dondușeni |
| MD-DR | Drochia |
| MD-DU | Dubăsari |
| MD-ED | Edineț |
| MD-FA | Fălești |
| MD-FL | Florești |
| MD-GL | Glodeni |
| MD-HI | Hîncești |
| MD-IA | Ialoveni |
| MD-LE | Leova |
| MD-NI | Nisporeni |
| MD-OC | Ocnița |
| MD-OR | Orhei |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---|
| MD-RE | Rezina |
| MD-RI | Rîșcani |
| MD-SI | Sîngerei |
| MD-SO | Soroca |
| MD-ST | Strășeni |
| MD-SD | Șoldănești |
| MD-SV | Ştefan Vodă |
| MD-TA | Taraclia |
| MD-TE | Telenești |
| MD-UN | Ungheni |
| MD-SN | Sînga Nistrului, unitatea teritorială din |
| ME-01 | Andrijevica |
| ME-02 | Bar |
| ME-03 | Berane |
| ME-04 | Bijelo Polje |
| ME-05 | Budva |
| ME-06 | Cetinje |
| ME-07 | Danilovgrad |
| ME-08 | Herceg-Novi |
| ME-09 | Kolašin |
| ME-10 | Kotor |
| ME-11 | Mojkovac |
| ME-12 | Nikšić |
| ME-13 | Plav |
| ME-14 | Pljevlja |
| ME-15 | Plužine |
| ME-16 | Podgorica |
| ME-17 | Rožaje |
| ME-18 | Šavnik |
| ME-19 | Tivat |
| ME-20 | Ulcinj |
| ME-21 | Žabljak |
| MG-T | Antananarivo |
| MG-D | Antsiranana |
| MG-F | Fianarantsoa |
| MG-M | Mahajanga |
| MG-A | Toamasina |
| MG-U | Toliara |
| MH-L | Ralik chain |
| MH-T | Ratak chain |
| MH-ALL | Ailinglaplap |
| MH-ALK | Ailuk |
| MH-ARN | Arno |
| MH-AUR | Aur |
| MH-EBO | Ebon |
| MH-ENI | Enewetak |
| MH-JAB | Jabat |
| MH-JAL | Jaluit |
| MH-KIL | Kili |
| MH-KWA | Kwajalein |
| MH-LAE | Lae |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------|
| MH-LIB | Lib |
| MH-LIK | Likiep |
| MH-MAJ | Majuro |
| MH-MAL | Maloelap |
| MH-MEJ | Mejit |
| MH-MIL | Mili |
| MH-NMK | Namdrík |
| MH-NMU | Namu |
| MH-RON | Rongelap |
| MH-UJA | Ujae |
| MH-UTI | Utírik |
| MH-WTN | Wotho |
| MH-WTJ | Wotje |
| MK-01 | Aerodrom |
| MK-02 | Aračinovo |
| MK-03 | Berovo |
| MK-04 | Bitola |
| MK-05 | Bogdanci |
| MK-06 | Bogovinje |
| MK-07 | Bosilovo |
| MK-08 | Brvenica |
| MK-09 | Butel |
| MK-77 | Centar |
| MK-78 | Centar Župa |
| MK-79 | Čair |
| MK-80 | Čaška |
| MK-81 | Češinovo-Obleševo |
| MK-82 | Čučer Sandevo |
| MK-21 | Debar |
| MK-22 | Debarca |
| MK-23 | Delčevو |
| MK-25 | Demir Hisar |
| MK-24 | Demir Kapija |
| MK-26 | Dojran |
| MK-27 | Dolneni |
| MK-28 | Drugovo |
| MK-17 | Gazi Baba |
| MK-18 | Gevgelija |
| MK-29 | Gjorče Petrov |
| MK-19 | Gostivar |
| MK-20 | Gradsko |
| MK-34 | Ilinden |
| MK-35 | Jegunovce |
| MK-37 | Karbinci |
| MK-38 | Karpoš |
| MK-36 | Kavadarci |
| MK-40 | Kičevo |
| MK-39 | Kisela Voda |
| MK-42 | Kočani |
| MK-41 | Konče |
| MK-43 | Kratovo |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------|
| MK-44 | Kriva Palanka |
| MK-45 | Krivogaštani |
| MK-46 | Kruševo |
| MK-47 | Kumanovo |
| MK-48 | Lipkovo |
| MK-49 | Lozovo |
| MK-51 | Makedonska Kamenica |
| MK-52 | Makedonski Brod |
| MK-50 | Mavrovo-i-Rostuša |
| MK-53 | Mogila |
| MK-54 | Negotino |
| MK-55 | Novaci |
| MK-56 | Novo Selo |
| MK-58 | Ohrid |
| MK-57 | Oslomej |
| MK-60 | Pehčevo |
| MK-59 | Petrovec |
| MK-61 | Plasnica |
| MK-62 | Prilep |
| MK-63 | Probištip |
| MK-64 | Radoviš |
| MK-65 | Rankovce |
| MK-66 | Resen |
| MK-67 | Rosoman |
| MK-68 | Saraj |
| MK-70 | Sopište |
| MK-71 | Staro Nagoričane |
| MK-72 | Struga |
| MK-73 | Strumica |
| MK-74 | Studeničani |
| MK-69 | Sveti Nikole |
| MK-83 | Štip |
| MK-84 | Šuto Orizari |
| MK-75 | Tearce |
| MK-76 | Tetovo |
| MK-10 | Valandovo |
| MK-11 | Vasilevo |
| MK-13 | Veles |
| MK-12 | Vevčani |
| MK-14 | Vinica |
| MK-15 | Vraneštica |
| MK-16 | Vrapčište |
| MK-31 | Zajas |
| MK-32 | Zelenikovo |
| MK-33 | Zrnovci |
| MK-30 | Želino |
| ML-BK0 | Bamako |
| ML-7 | Gao |
| ML-1 | Kayes |
| ML-8 | Kidal |
| ML-2 | Koulikoro |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|--------------------|
| ML-5 | Mopti |
| ML-4 | Ségou |
| ML-3 | Sikasso |
| ML-6 | Tombouctou |
| MM-07 | Ayeyarwady |
| MM-02 | Bago |
| MM-03 | Magway |
| MM-04 | Mandalay |
| MM-01 | Sagaing |
| MM-05 | Tanintharyi |
| MM-06 | Yangon |
| MM-14 | Chin |
| MM-11 | Kachin |
| MM-12 | Kayah |
| MM-13 | Kayin |
| MM-15 | Mon |
| MM-16 | Rakhine |
| MM-17 | Shan |
| MN-073 | Arhangay |
| MN-069 | Bayanhongor |
| MN-071 | Bayan-Ölgii |
| MN-067 | Bulgan |
| MN-061 | Dornod |
| MN-063 | Dornogovi |
| MN-059 | Dundgovi |
| MN-057 | Dzavhan |
| MN-065 | Govi-Altay |
| MN-039 | Hentiy |
| MN-043 | Hovd |
| MN-041 | Hövsgöl |
| MN-053 | Ömnögovi |
| MN-055 | Övörhangay |
| MN-049 | Selenge |
| MN-051 | Sühbaatar |
| MN-047 | Töv |
| MN-046 | Uvs |
| MN-1 | Ulanbaatar |
| MN-037 | Darhan uul |
| MN-064 | Govi-Sumber |
| MN-035 | Orhon |
| MR-NKC | Nouakchott |
| MR-07 | Adrar |
| MR-03 | Assaba |
| MR-05 | Brakna |
| MR-08 | Dakhlet Nouadhibou |
| MR-04 | Gorgol |
| MR-10 | Guidimaka |
| MR-01 | Hodh ech Chargui |
| MR-02 | Hodh el Charbi |
| MR-12 | Inchiri |
| MR-09 | Tagant |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------|
| MR-11 | Tiris Zemmour |
| MR-06 | Trarza |
| MT-01 | Attard |
| MT-02 | Balzan |
| MT-03 | Birgu |
| MT-04 | Birkirkara |
| MT-05 | Birżeppuġa |
| MT-06 | Bormla |
| MT-07 | Dingli |
| MT-08 | Fgura |
| MT-09 | Floriana |
| MT-10 | Fontana |
| MT-11 | Gudja |
| MT-12 | Gżira |
| MT-13 | Għajnsielem |
| MT-14 | Għarb |
| MT-15 | Għargħur |
| MT-16 | Għasri |
| MT-17 | Għaxaq |
| MT-18 | Hamrun |
| MT-19 | Ikklin |
| MT-20 | Isla |
| MT-21 | Kalkara |
| MT-22 | Kerċem |
| MT-23 | Kirkop |
| MT-24 | Lija |
| MT-25 | Luqa |
| MT-26 | Marsa |
| MT-27 | Marsaskala |
| MT-28 | Marsaxlokk |
| MT-29 | Mdina |
| MT-30 | Mellieħha |
| MT-31 | Mġarr |
| MT-32 | Mosta |
| MT-33 | Mqabba |
| MT-34 | Msida |
| MT-35 | Mtarfa |
| MT-36 | Munxar |
| MT-37 | Nadur |
| MT-38 | Naxxar |
| MT-39 | Paola |
| MT-40 | Pembroke |
| MT-41 | Pietà |
| MT-42 | Qala |
| MT-43 | Qormi |
| MT-44 | Qrendi |
| MT-45 | Rabat Ĝawdex |
| MT-46 | Rabat Malta |
| MT-47 | Safí |
| MT-48 | San Ġiljan |
| MT-49 | San ġwann |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------------|
| MT-50 | San Lawrenz |
| MT-51 | San Pawl il-Baħar |
| MT-52 | Sannat |
| MT-53 | Santa Lucija |
| MT-54 | Santa Venera |
| MT-55 | Stiġġiewi |
| MT-56 | Sliema |
| MT-57 | Swieqi |
| MT-58 | Ta' Xbiex |
| MT-59 | Taxien |
| MT-60 | Valletta |
| MT-61 | Xagħra |
| MT-62 | Xewkija |
| MT-63 | Xgħajra |
| MT-64 | Zabbar |
| MT-65 | Żebbuġ Ġħawdex |
| MT-66 | Żebbuġ Malta |
| MT-67 | Żejtun |
| MT-68 | Żurrieq |
| MU-BR | Beau Bassin-Rose Hill |
| MU-CU | Curepipe |
| MU-PU | Port Louis |
| MU-QB | Quatre Bornes |
| MU-VP | Vacoas-Phoenix |
| MU-AG | Agalega Islands |
| MU-CC | Cargados Carajos Shoals |
| MU-RO | Rodrigues Island |
| MU-BL | Black River |
| MU-FL | Flacq |
| MU-GP | Grand Port |
| MU-MO | Moka |
| MU-PA | Pamplemousses |
| MU-PW | Plaines Wilhems |
| MU-PL | Port Louis |
| MU-RP | Rivière du Rempart |
| MU-SA | Savanne |
| MV-MLE | Male |
| MV-SU | South |
| MV-US | Upper South |
| MV-UN | Upper North |
| MV-CE | Central |
| MV-SC | South Central |
| MV-NC | North Central |
| MV-NO | North |
| MV-02 | Alifu Alifu |
| MV-00 | Alifu Dhaalu |
| MV-20 | Baa |
| MV-17 | Dhaalu |
| MV-14 | Faafu |
| MV-27 | Gaafu Alifu |
| MV-28 | Gaafu Dhaalu |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------|
| MV-29 | Gnaviyani |
| MV-07 | Haa Alifu |
| MV-23 | Haa Dhaalu |
| MV-26 | Kaafu |
| MV-05 | Laamu |
| MV-03 | Lhaviyani |
| MV-12 | Meemu |
| MV-25 | Noonu |
| MV-13 | Raa |
| MV-01 | Seenu |
| MV-24 | Shaviyani |
| MV-08 | Thaa |
| MV-04 | Vaavu |
| MW-C | Central Region |
| MW-N | Northern Region |
| MW-S | Southern Region |
| MW-BA | Balaka |
| MW-BL | Blantyre |
| MW-CK | Chikwawa |
| MW-CR | Chiradzulu |
| MW-CT | Chitipa |
| MW-DE | Dedza |
| MW-DO | Dowa |
| MW-KR | Karonga |
| MW-KS | Kasungu |
| MW-LK | Likoma |
| MW-LI | Lilongwe |
| MW-MH | Machinga |
| MW-MG | Mangochi |
| MW-MC | Mchinji |
| MW-MU | Mulanje |
| MW-MW | Mwanza |
| MW-MZ | Mzimba |
| MW-NE | Neno |
| MW-NB | Nkhata Bay |
| MW-NK | Nkhotakota |
| MW-NS | Nsanje |
| MW-NU | Ntcheu |
| MW-NI | Ntchisi |
| MW-PH | Phalombe |
| MW-RU | Rumphi |
| MW-SA | Salima |
| MW-TH | Thyolo |
| MW-ZO | Zomba |
| MX-DIF | Distrito Federal |
| MX-AGU | Aguascalientes |
| MX-BCN | Baja California |
| MX-BCS | Baja California Sur |
| MX-CAM | Campeche |
| MX-COA | Coahuila |
| MX-COL | Colima |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------------|
| MX-CHP | Chiapas |
| MX-CHH | Chihuahua |
| MX-DUR | Durango |
| MX-GUA | Guanajuato |
| MX-GRO | Guerrero |
| MX-HID | Hidalgo |
| MX-JAL | Jalisco |
| MX-MEX | México |
| MX-MIC | Michoacán |
| MX-MOR | Morelos |
| MX-NAY | Nayarit |
| MX-NLE | Nuevo León |
| MX-OAX | Oaxaca |
| MX-PUE | Puebla |
| MX-QUE | Querétaro |
| MX-ROO | Quintana Roo |
| MX-SLP | San Luis Potosí |
| MX-SIN | Sinaloa |
| MX-SON | Sonora |
| MX-TAB | Tabasco |
| MX-TAM | Tamaulipas |
| MX-TLA | Tlaxcala |
| MX-VER | Veracruz |
| MX-YUC | Yucatán |
| MX-ZAC | Zacatecas |
| MY-14 | Wilayah Persekutuan Kuala Lumpur |
| MY-15 | Wilayah Persekutuan Labuan |
| MY-16 | Wilayah Persekutuan Putrajaya |
| MY-01 | Johor |
| MY-02 | Kedah |
| MY-03 | Kelantan |
| MY-04 | Melaka |
| MY-05 | Negeri Sembilan |
| MY-06 | Pahang |
| MY-08 | Perak |
| MY-09 | Perlis |
| MY-07 | Pulau Pinang |
| MY-12 | Sabah |
| MY-13 | Sarawak |
| MY-10 | Selangor |
| MY-11 | Terengganu |
| MZ-MPM | Maputo (city) |
| MZ-P | Cabo Delgado |
| MZ-G | Gaza |
| MZ-I | Inhambane |
| MZ-B | Manica |
| MZ-L | Maputo |
| MZ-N | Numpula |
| MZ-A | Niassa |
| MZ-S | Sofala |
| MZ-T | Tete |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|-------------------------|
| MZ-Q | Zambezia |
| NA-CA | Caprivi |
| NA-ER | Erlango |
| NA-HA | Hardap |
| NA-KA | Karas |
| NA-KH | Khomas |
| NA-KU | Kunene |
| NA-OW | Ohangwena |
| NA-OK | Okavango |
| NA-OH | Omaheke |
| NA-OS | Omusati |
| NA-ON | Oshana |
| NA-OT | Oshikoto |
| NA-OD | Otjozondjupa |
| NE-8 | Niamey |
| NE-1 | Agadez |
| NE-2 | Diffa |
| NE-3 | Dosso |
| NE-4 | Maradi |
| NE-5 | Tahoua |
| NE-6 | Tillabéri |
| NE-7 | Zinder |
| NG-FC | Abuja Capital Territory |
| NG-AB | Abia |
| NG-AD | Adamawa |
| NG-AK | Akwa Ibom |
| NG-AN | Anambra |
| NG-BA | Bauchi |
| NG-BY | Bayelsa |
| NG-BE | Benue |
| NG-BO | Borno |
| NG-CR | Cross River |
| NG-DE | Delta |
| NG-EB | Ebonyi |
| NG-ED | Edo |
| NG-EK | Ekiti |
| NG-EN | Enugu |
| NG-GO | Gombe |
| NG-IM | Imo |
| NG-JI | Jigawa |
| NG-KD | Kaduna |
| NG-KN | Kano |
| NG-KT | Katsina |
| NG-KE | Kebbi |
| NG-KO | Kogi |
| NG-KW | Kwara |
| NG-LA | Lagos |
| NG-NA | Nassarawa |
| NG-NI | Niger |
| NG-OG | Ogun |
| NG-ON | Ondo |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-----------------|
| NG-OS | Osun |
| NG-OY | Oyo |
| NG-PL | Plateau |
| NG-RI | Rivers |
| NG-SO | Sokoto |
| NG-TA | Taraba |
| NG-YO | Yobe |
| NG-ZA | Zamfara |
| NI-BO | Boaco |
| NI-CA | Carazo |
| NI-CI | Chinandega |
| NI-CO | Chontales |
| NI-ES | Estelí |
| NI-GR | Granada |
| NI-JI | Jinotega |
| NI-LE | León |
| NI-MD | Madriz |
| NI-MN | Managua |
| NI-MS | Masaya |
| NI-MT | Matagalpa |
| NI-NS | Nueva Segovia |
| NI-SJ | Río San Juan |
| NI-RI | Rivas |
| NI-AN | Atlántico Norte |
| NI-AS | Atlántico Sur |
| NL-DR | Drenthe |
| NL-FL | Flevoland |
| NL-FR | Friesland |
| NL-GE | Gelderland |
| NL-GR | Groningen |
| NL-LI | Limburg |
| NL-NB | Noord-Brabant |
| NL-NH | Noord-Holland |
| NL-OV | Overijssel |
| NL-UT | Utrecht |
| NL-ZE | Zeeland |
| NL-ZH | Zuid-Holland |
| NL-AW | Aruba |
| NL-CW | Curaçao |
| NL-SX | Sint Maarten |
| NL-BQ1 | Bonaire |
| NL-BQ2 | Saba |
| NL-BQ3 | Sint Eustatius |
| NO-02 | Akershus |
| NO-09 | Aust-Agder |
| NO-06 | Buskerud |
| NO-20 | Finnmark |
| NO-04 | Hedmark |
| NO-12 | Hordaland |
| NO-15 | Møre og Romsdal |
| NO-18 | Nordland |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------------|
| NO-17 | Nord-Trøndelag |
| NO-05 | Oppland |
| NO-03 | Oslo |
| NO-11 | Rogaland |
| NO-14 | Sogn og Fjordane |
| NO-16 | Sør-Trøndelag |
| NO-08 | Telemark |
| NO-19 | Troms |
| NO-10 | Vest-Agder |
| NO-07 | Vestfold |
| NO-01 | Østfold |
| NO-22 | Jan Mayen (Arctic Region) |
| NO-21 | Svalbard (Arctic Region) |
| NP-1 | Madhyamanchal |
| NP-2 | Madhya Pashchimanchal |
| NP-3 | Pashchimanchal |
| NP-4 | Purwanchal |
| NP-5 | Sudur Pashchimanchal |
| NP-BA | Bagmati |
| NP-BH | Bheri |
| NP-DH | Dhawalagiri |
| NP-GA | Gandaki |
| NP-JA | Janakpur |
| NP-KA | Karnali |
| NP-KO | Kosi |
| NP-LU | Lumbini |
| NP-MA | Mahakali |
| NP-ME | Mechi |
| NP-NA | Narayani |
| NP-RA | Rapti |
| NP-SA | Sagarmatha |
| NP-SE | Seti |
| NR-01 | Aiwo |
| NR-02 | Anabar |
| NR-03 | Anetan |
| NR-04 | Anibare |
| NR-05 | Baiti |
| NR-06 | Boe |
| NR-07 | Buada |
| NR-08 | Denigomodu |
| NR-09 | Ewa |
| NR-10 | Ijuw |
| NR-11 | Meneng |
| NR-12 | Nibok |
| NR-13 | Uaboe |
| NR-14 | Yaren |
| NZ-N | North Island |
| NZ-S | South Island |
| NZ-AUK | Auckland |
| NZ-BOP | Bay of Plenty |
| NZ-CAN | Canterbury |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------------------------|
| NZ-HKB | Hawke's Bay |
| NZ-MWT | Manawatu-Wanganui |
| NZ-NTL | Northland |
| NZ-OTA | Otago |
| NZ-STL | Southland |
| NZ-TKI | Taranaki |
| NZ-WKO | Waikato |
| NZ-WGN | Wellington |
| NZ-WTC | West Coast |
| NZ-GIS | Gisborne District |
| NZ-MBH | Marlborough District |
| NZ-NSN | Nelson City |
| NZ-TAS | Tasman District |
| NZ-CIT | Chatham Islands Territory |
| OM-DA | Ad Dākhilīya |
| OM-BA | Al Bāṭinah |
| OM-WU | Al Wusṭá |
| OM-SH | Ash Sharqīyah |
| OM-ZA | Az Zāhirah |
| OM-BU | Al Buraymī |
| OM-MA | Masqat |
| OM-MU | Musandam |
| OM-ZU | Zufār |
| PA-1 | Bocas del Toro |
| PA-4 | Chiriquí |
| PA-2 | Coclé |
| PA-3 | Colón |
| PA-5 | Darién |
| PA-6 | Herrera |
| PA-7 | Los Santos |
| PA-8 | Panamá |
| PA-9 | Veraguas |
| PA-EM | Emberá |
| PA-KY | Kuna Yala |
| PA-NB | Ngöbe-Buglé |
| PE-CAL | El Callao |
| PE-LMA | Municipalidad Metropolitana de Lima |
| PE-AMA | Amazonas |
| PE-ANC | Ancash |
| PE-APU | Apurímac |
| PE-ARE | Arequipa |
| PE-AYA | Ayacucho |
| PE-CAJ | Cajamarca |
| PE-CUS | Cusco [Cuzco] |
| PE-HUV | Huancavelica |
| PE-HUC | Huánuco |
| PE-ICA | Ica |
| PE-JUN | Junín |
| PE-LAL | La Libertad |
| PE-LAM | Lambayeque |
| PE-LIM | Lima |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---|
| PE-LOR | Loreto |
| PE-MDD | Madre de Dios |
| PE-MOQ | Moquegua |
| PE-PAS | Pasco |
| PE-PIU | Piura |
| PE-PUN | Puno |
| PE-SAM | San Martín |
| PE-TAC | Tacna |
| PE-TUM | Tumbes |
| PE-UCA | Ucayali |
| PG-NCD | National Capital District (Port Moresby) |
| PG-CPM | Central |
| PG-CPK | Chimbu |
| PG-EHG | Eastern Highlands |
| PG-EBR | East New Britain |
| PG-ESW | East Sepik |
| PG-EPW | Enga |
| PG-GPK | Gulf |
| PG-MPM | Madang |
| PG-MRL | Manus |
| PG-MBA | Milne Bay |
| PG-MPL | Morobe |
| PG-NIK | New Ireland |
| PG-NPP | Northern |
| PG-SAN | Sandaun |
| PG-SHM | Southern Highlands |
| PG-WPD | Western |
| PG-WHM | Western Highlands |
| PG-WBK | West New Britain |
| PG-NSB | Bougainville |
| PH-14 | Autonomous Region in Muslim Mindanao (ARMM) |
| PH-05 | Bicol (Region V) |
| PH-02 | Cagayan Valley (Region II) |
| PH-40 | CALABARZON (Region IV-A) |
| PH-13 | Caraga (Region XIII) |
| PH-03 | Central Luzon (Region III) |
| PH-07 | Central Visayas (Region VII) |
| PH-15 | Cordillera Administrative Region (CAR) |
| PH-08 | Eastern Visayas (Region VIII) |
| PH-01 | Ilocos (Region I) |
| PH-41 | MIMAROPA (Region IV-B) |
| PH-00 | National Capital Region |
| PH-10 | Northern Mindanao (Region X) |
| PH-11 | Davao (Region XI) |
| PH-12 | Soccsksargen (Region XII) |
| PH-06 | Western Visayas (Region VI) |
| PH-09 | Zamboanga Peninsula (Region IX) |
| PH-ABR | Abra |
| PH-AGN | Agusan del Norte |
| PH-AGS | Agusan del Sur |
| PH-AKL | Aklan |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|--------------------|
| PH-ALB | Albay |
| PH-ANT | Antique |
| PH-APA | Apayao |
| PH-AUR | Aurora |
| PH-BAS | Basilan |
| PH-BAN | Batasn |
| PH-BTN | Batanes |
| PH-BTG | Batangas |
| PH-BEN | Benguet |
| PH-BIL | Biliran |
| PH-BOH | Bohol |
| PH-BUK | Bukidnon |
| PH-BUL | Bulacan |
| PH-CAG | Cagayan |
| PH-CAN | Camarines Norte |
| PH-CAS | Camarines Sur |
| PH-CAM | Camiguin |
| PH-CAP | Capiz |
| PH-CAT | Catanduanes |
| PH-CAV | Cavite |
| PH-CEB | Cebu |
| PH-COM | Compostela Valley |
| PH-DAV | Davao del Norte |
| PH-DAS | Davao del Sur |
| PH-DAO | Davao Oriental |
| PH-DIN | Dinagat Islands |
| PH-EAS | Eastern Samar |
| PH-GUI | Guimaras |
| PH-IFU | Ifugao |
| PH-ILN | Ilocos Norte |
| PH-ILS | Ilocos Sur |
| PH-ILI | Iloilo |
| PH-ISA | Isabela |
| PH-KAL | Kalinga-Apayso |
| PH-LAG | Laguna |
| PH-LAN | Lanao del Norte |
| PH-LAS | Lanao del Sur |
| PH-LUN | La Union |
| PH-LEY | Leyte |
| PH-MAG | Maguindanao |
| PH-MAD | Marinduque |
| PH-MAS | Masbate |
| PH-MDC | Mindoro Occidental |
| PH-MDR | Mindoro Oriental |
| PH-MSC | Misamis Occidental |
| PH-MSR | Misamis Oriental |
| PH-MOU | Mountain Province |
| PH-NEC | Negroe Occidental |
| PH-NER | Negros Oriental |
| PH-NCO | North Cotabato |
| PH-NSA | Northern Samar |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------------------------|
| PH-NUE | Nueva Ecija |
| PH-NUV | Nueva Vizcaya |
| PH-PLW | Palawan |
| PH-PAM | Pampanga |
| PH-PAN | Pangasinan |
| PH-QUE | Quezon |
| PH-QUI | Quirino |
| PH-RIZ | Rizal |
| PH-ROM | Romblon |
| PH-SAR | Sarangani |
| PH-SIG | Siquijor |
| PH-SOR | Sorsogon |
| PH-SCO | South Cotabato |
| PH-SLE | Southern Leyte |
| PH-SUK | Sultan Kudarat |
| PH-SLU | Sulu |
| PH-SUN | Surigao del Norte |
| PH-SUR | Surigao del Sur |
| PH-TAR | Tarlac |
| PH-TAW | Tawi-Tawi |
| PH-WSA | Western Samar |
| PH-ZMB | Zambales |
| PH-ZAN | Zamboanga del Norte |
| PH-ZAS | Zamboanga del Sur |
| PH-ZSI | Zamboanga Sibugay |
| PK-IS | Islamabad |
| PK-BA | Balochistan |
| PK-KP | Khyber Pakhtunkhwa |
| PK-PB | Punjab |
| PK-SD | Sindh |
| PK-TA | Federally Administered Tribal Areas |
| PK-JK | Azad Kashmir |
| PK-GB | Gilgit-Baltistan |
| PL-DS | Dolnośląskie |
| PL-KP | Kujawsko-pomorskie |
| PL-LU | Lubelskie |
| PL-LB | Lubuskie |
| PL-LD | Łódzkie |
| PL-MA | Małopolskie |
| PL-MZ | Mazowieckie |
| PL-OP | Opolskie |
| PL-PK | Podkarpackie |
| PL-PD | Podlaskie |
| PL-PM | Pomorskie |
| PL-SL | Śląskie |
| PL-SK | Świętokrzyskie |
| PL-WN | Warmińsko-mazurskie |
| PL-WP | Wielkopolskie |
| PL-ZP | Zachodniopomorskie |
| PS-BTH | Bethlehem |
| PS-DEB | Deir El Balah |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------------|
| PS-GZA | Gaza |
| PS-HBN | Hebron |
| PS-JEN | Jenin |
| PS-JRH | Jericho - Al Aghwar |
| PS-JEM | Jerusalem |
| PS-KYS | Khan Yunis |
| PS-NBS | Nablus |
| PS-NGZ | North Gaza |
| PS-QQA | Qalqilya |
| PS-RFH | Rafah |
| PS-RBH | Ramallah |
| PS-SLT | Salfit |
| PS-TBS | Tubas |
| PS-TKM | Tulkarm |
| PT-01 | Aveiro |
| PT-02 | Beja |
| PT-03 | Braga |
| PT-04 | Bragança |
| PT-05 | Castelo Branco |
| PT-06 | Coimbra |
| PT-07 | Évora |
| PT-08 | Faro |
| PT-09 | Guarda |
| PT-10 | Leiria |
| PT-11 | Lisboa |
| PT-12 | Portalegre |
| PT-13 | Porto |
| PT-14 | Santarém |
| PT-15 | Setúbal |
| PT-16 | Viana do Castelo |
| PT-17 | Vila Real |
| PT-18 | Viseu |
| PT-20 | Região Autónoma dos Açores |
| PT-30 | Região Autónoma da Madeira |
| PW-002 | Aimeliük |
| PW-004 | Airai |
| PW-010 | Angaur |
| PW-050 | Hatobohei |
| PW-100 | Kayangel |
| PW-150 | Koror |
| PW-212 | Melekeok |
| PW-214 | Ngaraard |
| PW-218 | Ngarchelong |
| PW-222 | Ngardmau |
| PW-224 | Ngatpang |
| PW-226 | Ngchesar |
| PW-227 | Ngeremlengui |
| PW-228 | Ngiwal |
| PW-350 | Peleliu |
| PW-370 | Sonsorol |
| PY-ASU | Asunción |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------------|
| PY-16 | Alto Paraguay |
| PY-10 | Alto Paraná |
| PY-13 | Amambay |
| PY-19 | Boquerón |
| PY-5 | Caaguazú |
| PY-6 | Caazapá |
| PY-14 | Canindeyú |
| PY-11 | Central |
| PY-1 | Concepción |
| PY-3 | Cordillera |
| PY-4 | Guairá |
| PY-7 | Itapúa |
| PY-8 | Misiones |
| PY-12 | Ñeembucú |
| PY-9 | Paraguarí |
| PY-15 | Presidente Hayes |
| PY-2 | San Pedro |
| QA-DA | Ad Dawhah |
| QA-KH | Al Khawr wa adh Dhakhīrah |
| QA-WA | Al Wakrah |
| QA-RA | Ar Rayyan |
| QA-MS | Ash Shamal |
| QA-ZA | Az Za'āyin |
| QA-US | Umm Salal |
| RO-AB | Alba |
| RO-AR | Arad |
| RO-AG | Argeș |
| RO-BC | Bacău |
| RO-BH | Bihor |
| RO-BN | Bistrița-Năsăud |
| RO-BT | Botoșani |
| RO-BV | Brașov |
| RO-BR | Brăila |
| RO-BZ | Buzău |
| RO-CS | Caraș-Severin |
| RO-CL | Călărași |
| RO-CJ | Cluj |
| RO-CT | Constanța |
| RO-CV | Covasna |
| RO-DB | Dâmbovița |
| RO-DJ | Dolj |
| RO-GL | Galați |
| RO-GR | Giurgiu |
| RO-GJ | Gorj |
| RO-HR | Harghita |
| RO-HD | Hunedoara |
| RO-IL | Ialomița |
| RO-IS | Iași |
| RO-IF | Ilfov |
| RO-MM | Maramureș |
| RO-MH | Mehedinți |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------------|
| RO-MS | Mureş |
| RO-NT | Neamţ |
| RO-OT | Olt |
| RO-PH | Prahova |
| RO-SM | Satu Mare |
| RO-SJ | Sălaj |
| RO-SB | Sibiu |
| RO-SV | Suceava |
| RO-TR | Teleorman |
| RO-TM | Tîmîş |
| RO-TL | Tulcea |
| RO-VS | Vaslui |
| RO-VL | Vâlcea |
| RO-VN | Vrancea |
| RO-B | Bucureşti |
| RS-00 | Beograd |
| RS-KM | Kosovo-Metohija |
| RS-VO | Vojvodina |
| RS-14 | Borski okrug |
| RS-11 | Braničevski okrug |
| RS-23 | Jablanički okrug |
| RS-06 | Južnobački okrug |
| RS-04 | Južnobanatski okrug |
| RS-09 | Kolubarski okrug |
| RS-25 | Kosovski okrug |
| RS-28 | Kosovsko-Mitrovački okrug |
| RS-29 | Kosovsko-Pomoravski okrug |
| RS-08 | Mačvanski okrug |
| RS-17 | Moravički okrug |
| RS-20 | Nišavski okrug |
| RS-24 | Pčinjski okrug |
| RS-26 | Pećki okrug |
| RS-22 | Pirotski okrug |
| RS-10 | Podunavski okrug |
| RS-13 | Pomoravski okrug |
| RS-27 | Prizrenski okrug |
| RS-19 | Rasinski okrug |
| RS-18 | Raški okrug |
| RS-01 | Severnobački okrug |
| RS-03 | Severnobanatski okrug |
| RS-02 | Srednjebanatski okrug |
| RS-07 | Sremski okrug |
| RS-12 | Šumadijski okrug |
| RS-21 | Toplički okrug |
| RS-15 | Zaječarski okrug |
| RS-05 | Zapadnobački okrug |
| RS-16 | Zlatiborski okrug |
| RU-AD | Adygeya, Respublika |
| RU-AL | Altay, Respublika |
| RU-BA | Bashkortostan, Respublika |
| RU-BU | Buryatiya, Respublika |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------------------------|
| RU-CE | Chechenskaya Respublika |
| RU-CU | Chuvashskaya Respublika |
| RU-DA | Dagestan, Respublika |
| RU-IN | Respublika Ingushetiya |
| RU-KB | Kabardino-Balkarskaya Respublika |
| RU-KL | Kalmykiya, Respublika |
| RU-KC | Karachayevo-Cherkesskaya Respublika |
| RU-KR | Kareliya, Respublika |
| RU-KK | Khakasiya, Respublika |
| RU-KO | Komi, Respublika |
| RU-ME | Mariy El, Respublika |
| RU-MO | Mordoviya, Respublika |
| RU-SA | Sakha, Respublika [Yakutiya] |
| RU-SE | Severnaya Osetiya-Alaniya, Respublika |
| RU-TA | Tatarstan, Respublika |
| RU-TY | Tyva, Respublika [Tuva] |
| RU-UD | Udmurtskaya Respublika |
| RU-ALT | Altayskiy kray |
| RU-KAM | Kamchatskiy kray |
| RU-KHA | Khabarovskiy kray |
| RU-KDA | Krasnodarskiy kray |
| RU-KYA | Krasnoyarskiy kray |
| RU-PER | Permskiy kray |
| RU-PRI | Primorskiy kray |
| RU-STA | Stavropol'skiy kray |
| RU-ZAB | Zabajkal'skiy kraj |
| RU-AMU | Amurskaya oblast' |
| RU-ARK | Arkhangel'skaya oblast' |
| RU-AST | Astrakhanskaya oblast' |
| RU-BEL | Belgorodskaya oblast' |
| RU-BRY | Bryanskaya oblast' |
| RU-CHE | Chelyabinskaya oblast' |
| RU-IRK | Irkutiskaya oblast' |
| RU-IVA | Ivanovskaya oblast' |
| RU-KGD | Kaliningradskaya oblast' |
| RU-KLU | Kaluzhskaya oblast' |
| RU-KEM | Kemerovskaya oblast' |
| RU-KIR | Kirovskaya oblast' |
| RU-KOS | Kostromskaya oblast' |
| RU-KGN | Kurganskaya oblast' |
| RU-KRS | Kurskaya oblast' |
| RU-LEN | Leningradskaya oblast' |
| RU-LIP | Lipetskaya oblast' |
| RU-MAG | Magadanskaya oblast' |
| RU-MOS | Moskovskaya oblast' |
| RU-MUR | Murmanskaya oblast' |
| RU-NIZ | Nizhegorodskaya oblast' |
| RU-NGR | Novgorodskaya oblast' |
| RU-NVS | Novosibirskaya oblast' |
| RU-OMS | Omskaya oblast' |
| RU-ORE | Orenburgskaya oblast' |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---|
| RU-ORL | Orlovskaya oblast' |
| RU-PNZ | Penzenskaya oblast' |
| RU-PSK | Pskovskaya oblast' |
| RU-ROS | Rostovskaya oblast' |
| RU-RYA | Ryazanskaya oblast' |
| RU-SAK | Sakhalinskaya oblast' |
| RU-SAM | Samaraskaya oblast' |
| RU-SAR | Saratovskaya oblast' |
| RU-SMO | Smolenskaya oblast' |
| RU-SVE | Sverdlovskaya oblast' |
| RU-TAM | Tambovskaya oblast' |
| RU-TOM | Tomskaya oblast' |
| RU-TUL | Tul'skaya oblast' |
| RU-TVE | Tverskaya oblast' |
| RU-TYU | Tyumenskaya oblast' |
| RU-ULY | Ul'yanovskaya oblast' |
| RU-VLA | Vladimirskaya oblast' |
| RU-VGG | Volgogradskaya oblast' |
| RU-VLG | Vologodskaya oblast' |
| RU-VOR | Voronezhskaya oblast' |
| RU-YAR | Yaroslavskaya oblast' |
| RU-MOW | Moskva |
| RU-SPE | Sankt-Peterburg |
| RU-YEV | Yevreyskaya avtonomnaya oblast' |
| RU-CHU | Chukotskiy avtonomnyy okrug |
| RU-KHM | Khanty-Mansiysky avtonomnyy okrug-Yugra |
| RU-NEN | Nenetskiy avtonomnyy okrug |
| RU-YAN | Yamalo-Nenetskiy avtonomnyy okrug |
| RW-01 | Ville de Kigali |
| RW-02 | Est |
| RW-03 | Nord |
| RW-04 | Ouest |
| RW-05 | Sud |
| SA-11 | Al Bāhah |
| SA-08 | Al Ḥudūd ash Shamāliyah |
| SA-12 | Al Jawf |
| SA-03 | Al Madīnah |
| SA-05 | Al Qaṣīm |
| SA-01 | Ar Riyāḍ |
| SA-04 | Ash Sharqīyah |
| SA-14 | 'Asīr |
| SA-06 | Ḩā'il |
| SA-09 | Jīzan |
| SA-02 | Makkah |
| SA-10 | Najrān |
| SA-07 | Tabūk |
| SB-CT | Capital Territory (Honiara) |
| SB-CE | Central |
| SB-CH | Choiseul |
| SB-GU | Guadalcanal |
| SB-IS | Isabel |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------|
| SB-MK | Makira |
| SB-ML | Malaita |
| SB-RB | Rennell and Bellona |
| SB-TE | Temotu |
| SB-WE | Western |
| SC-01 | Anse aux Pins |
| SC-02 | Anse Boileau |
| SC-03 | Anse Etoile |
| SC-04 | Anse Louis |
| SC-05 | Anse Royale |
| SC-06 | Baie Lazare |
| SC-07 | Baie Sainte Anne |
| SC-08 | Beau Vallon |
| SC-09 | Bel Air |
| SC-10 | Bel Ombre |
| SC-11 | Cascade |
| SC-12 | Glacis |
| SC-13 | Grand Anse Mahe |
| SC-14 | Grand Anse Praslin |
| SC-15 | La Digue |
| SC-16 | English River |
| SC-24 | Les Mamelles |
| SC-17 | Mont Buxton |
| SC-18 | Mont Fleuri |
| SC-19 | Plaisance |
| SC-20 | Pointe Larue |
| SC-21 | Port Glaud |
| SC-25 | Roche Caiman |
| SC-22 | Saint Louis |
| SC-23 | Takamaka |
| SD-RS | Al Ba r al A mar |
| SD-GZ | Al Jazīrah |
| SD-KH | Al Kharṭūm |
| SD-GD | Al Qa ārif |
| SD-NR | An Nil |
| SD-NW | An Nil al Abya |
| SD-NB | An Nil al Azraq |
| SD-NO | Ash Shamālīyah |
| SD-DW | Gharb Dārfür |
| SD-DS | Janūb Dārfür |
| SD-KS | Janūb Kurdufān |
| SD-KA | Kassalā |
| SD-DN | Shamāl Dārfür |
| SD-KN | Shamāl Kurdufān |
| SD-DE | Sharq Dārfür |
| SD-SI | Sinnār |
| SD-DC | Zalingei |
| SE-K | Blekinge län |
| SE-W | Dalarnas län |
| SE-I | Gotlands län |
| SE-X | Gävleborgs län |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------------|
| SE-N | Hallands län |
| SE-Z | Jämtlands län |
| SE-F | Jönköpings län |
| SE-H | Kalmar län |
| SE-G | Kronobergs län |
| SE-BD | Norrbottens län |
| SE-M | Skåne län |
| SE-AB | Stockholms län |
| SE-D | Södermanlands län |
| SE-C | Uppsala län |
| SE-S | Värmlands län |
| SE-AC | Västerbottens län |
| SE-Y | Västernorrlands län |
| SE-U | Västmanlands län |
| SE-O | Västra Götalands län |
| SE-T | Örebro län |
| SE-E | Östergötlands län |
| SG-01 | Central Singapore |
| SG-02 | North East |
| SG-03 | North West |
| SG-04 | South East |
| SG-05 | South West |
| SG-AC | Ascension |
| SG-HL | Saint Helena |
| SG-TA | Tristan da Cunha |
| SI-001 | Ajdovščina |
| SI-195 | Apače |
| SI-002 | Beltinci |
| SI-148 | Benedikt |
| SI-149 | Bistrica ob Sotli |
| SI-003 | Bled |
| SI-150 | Bloke |
| SI-004 | Bohinj |
| SI-005 | Borovnica |
| SI-006 | Bovec |
| SI-151 | Braslovče |
| SI-007 | Brda |
| SI-008 | Brezovica |
| SI-009 | Brežice |
| SI-152 | Cankova |
| SI-011 | Celje |
| SI-012 | Cerkle na Gorenjskem |
| SI-013 | Cerknica |
| SI-014 | Cerkno |
| SI-153 | Cerkvenjak |
| SI-196 | Cirkulane |
| SI-015 | Črenšovci |
| SI-016 | Črna na Koroškem |
| SI-017 | Črnomelj |
| SI-018 | Destrnik |
| SI-019 | Divača |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-----------------------|
| SI-154 | Dobje |
| SI-020 | Dobrepolje |
| SI-155 | Dobrna |
| SI-021 | Dobrova-Polhov Gradec |
| SI-156 | Dobrovnik/Dobronak |
| SI-022 | Dol pri Ljubljani |
| SI-157 | Dolenjske Toplice |
| SI-023 | Domžale |
| SI-024 | Dornava |
| SI-025 | Dravograd |
| SI-026 | Duplek |
| SI-027 | Gorenja vas-Poljane |
| SI-028 | Gorišnica |
| SI-207 | Gorje |
| SI-029 | Gornja Radgona |
| SI-030 | Gornji Grad |
| SI-031 | Gornji Petrovci |
| SI-158 | Grad |
| SI-032 | Grosuplje |
| SI-159 | Hajdina |
| SI-160 | Hoče-Slivnica |
| SI-161 | Hodoš/Hodos |
| SI-162 | Horjul |
| SI-034 | Hrastnik |
| SI-035 | Hrpelje-Kozina |
| SI-036 | Idrija |
| SI-037 | Ig |
| SI-038 | Ilirska Bistrica |
| SI-039 | Ivančna Gorica |
| SI-040 | Izola/Isola |
| SI-041 | Jesenice |
| SI-163 | Jezersko |
| SI-042 | Juršinci |
| SI-043 | Kamnik |
| SI-044 | Kanal |
| SI-045 | Kidričevo |
| SI-046 | Kobarid |
| SI-047 | Kobilje |
| SI-048 | Kočevje |
| SI-049 | Komen |
| SI-164 | Komenda |
| SI-050 | Koper/Capodistria |
| SI-197 | Kosanjevica na Krki |
| SI-165 | Kostel |
| SI-051 | Kozje |
| SI-052 | Kranj |
| SI-053 | Kranjska Gora |
| SI-166 | Križevci |
| SI-054 | Krško |
| SI-055 | Kungota |
| SI-056 | Kuzma |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------------|
| SI-057 | Laško |
| SI-058 | Lenart |
| SI-059 | Lendava/Lendva |
| SI-060 | Litija |
| SI-061 | Ljubljana |
| SI-062 | Ljubno |
| SI-063 | Ljutomer |
| SI-208 | Log-Dragomer |
| SI-064 | Logatec |
| SI-065 | Loška dolina |
| SI-066 | Loški Potok |
| SI-167 | Lovrenc na Pohorju |
| SI-067 | Luče |
| SI-068 | Lukovica |
| SI-069 | Majšperk |
| SI-198 | Makole |
| SI-070 | Maribor |
| SI-168 | Markovci |
| SI-071 | Medvode |
| SI-072 | Mengeš |
| SI-073 | Metlika |
| SI-074 | Mežica |
| SI-169 | Miklavž na Dravskem polju |
| SI-075 | Miren-Kostanjevica |
| SI-170 | Mirna Peč |
| SI-076 | Mislinja |
| SI-199 | Mokronog-Trebelno |
| SI-077 | Moravče |
| SI-078 | Moravske Toplice |
| SI-079 | Mozirje |
| SI-080 | Murska Sobota |
| SI-081 | Muta |
| SI-082 | Naklo |
| SI-083 | Nazarje |
| SI-084 | Nova Gorica |
| SI-085 | Novo mesto |
| SI-086 | Odranci |
| SI-171 | Oplotnica |
| SI-087 | Ormož |
| SI-088 | Osilnica |
| SI-089 | Pesnica |
| SI-090 | Piran/Pirano |
| SI-091 | Pivka |
| SI-092 | Podčetrtek |
| SI-172 | Podlehnik |
| SI-093 | Podvelka |
| SI-200 | Poljčane |
| SI-173 | Polzela |
| SI-094 | Postojna |
| SI-174 | Prebold |
| SI-095 | Preddvor |

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Table A.5.1 – continued from previous page

| Key | Description |
|--------|------------------------------------|
| SI-175 | Prevalje |
| SI-096 | Ptuj |
| SI-097 | Puconci |
| SI-098 | Rače-Fram |
| SI-099 | Radeče |
| SI-100 | Radenci |
| SI-101 | Radlje ob Dravi |
| SI-102 | Radovljica |
| SI-103 | Ravne na Koroškem |
| SI-176 | Razkrižje |
| SI-209 | Rečica ob Savinji |
| SI-201 | Renče-Vogrsko |
| SI-104 | Ribnica |
| SI-177 | Ribnica na Pohorju |
| SI-106 | Rogaška Slatina |
| SI-105 | Rogašovci |
| SI-107 | Rogatec |
| SI-108 | Ruše |
| SI-178 | Selnica ob Dravi |
| SI-109 | Semič |
| SI-110 | Sevnica |
| SI-111 | Sežana |
| SI-112 | Slovenj Gradec |
| SI-113 | Slovenska Bistrica |
| SI-114 | Slovenske Konjice |
| SI-179 | Sodražica |
| SI-180 | Solčava |
| SI-202 | Središče ob Dravi |
| SI-115 | Starče |
| SI-203 | Straža |
| SI-181 | Sveta Ana |
| SI-204 | Sveta Trojica v Slovenskih Goricah |
| SI-182 | Sveta Andraž v Slovenskih Goricah |
| SI-116 | Sveti Jurij |
| SI-210 | Sveti Jurij v Slovenskih Goricah |
| SI-205 | Sveti Tomaž |
| SI-033 | Šalovci |
| SI-183 | Šempeter-Vrtojba |
| SI-117 | Šenčur |
| SI-118 | Šentilj |
| SI-119 | Šentjernej |
| SI-120 | Šentjur |
| SI-211 | Šentrupert |
| SI-121 | Škocjan |
| SI-122 | Škofja Loka |
| SI-123 | Škofljica |
| SI-124 | Šmarje pri Jelšah |
| SI-206 | Šmarjeske Topliče |
| SI-125 | Šmartno ob Paki |
| SI-194 | Šmartno pri Litiji |

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Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------------|
| SI-126 | Šoštanj |
| SI-127 | Štore |
| SI-184 | Tabor |
| SI-010 | Tišina |
| SI-128 | Tolmin |
| SI-129 | Trbovlje |
| SI-130 | Trebnje |
| SI-185 | Trnovska vas |
| SI-186 | Trzin |
| SI-131 | Tržič |
| SI-132 | Turnišče |
| SI-133 | Velenje |
| SI-187 | Velika Polana |
| SI-134 | Velike Lašče |
| SI-188 | Veržej |
| SI-135 | Videm |
| SI-136 | Vipava |
| SI-137 | Vitanje |
| SI-138 | Vodice |
| SI-139 | Vojnik |
| SI-189 | Vransko |
| SI-140 | Vrhnička |
| SI-141 | Vuzenica |
| SI-142 | Zagorje ob Savi |
| SI-143 | Zavrč |
| SI-144 | Zreče |
| SI-190 | Žalec |
| SI-146 | Železniki |
| SI-191 | Žetale |
| SI-147 | Žiri |
| SI-192 | Žirovnica |
| SI-193 | Žužemberk |
| SK-BC | Banskobystrický kraj |
| SK-BL | Bratislavský kraj |
| SK-KI | Košický kraj |
| SK-NI | Nitriansky kraj |
| SK-PV | Prešovský kraj |
| SK-TC | Trenčiansky kraj |
| SK-TA | Trnavský kraj |
| SK-ZI | Žilinský kraj |
| SL-W | Western Area (Freetown) |
| SL-E | Eastern |
| SL-N | Northern |
| SL-S | Southern (Sierra Leone) |
| SM-01 | Acquaviva |
| SM-06 | Borgo Maggiore |
| SM-02 | Chiesanuova |
| SM-03 | Domagnano |
| SM-04 | Faetano |
| SM-05 | Fiorentino |
| SM-08 | Montegiardino |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------------|
| SM-07 | San Marino |
| SM-09 | Serravalle |
| SN-DK | Dakar |
| SN-DB | Diourbel |
| SN-FK | Fatick |
| SN-KA | Kaffrine |
| SN-KL | Kaolack |
| SN-KE | Kédougou |
| SN-KD | Kolda |
| SN-LG | Louga |
| SN-MT | Matam |
| SN-SL | Saint-Louis |
| SN-SE | Sédhiou |
| SN-TC | Tambacounda |
| SN-TH | Thiès |
| SN-ZG | Ziguinchor |
| SO-AW | Awdal |
| SO-BK | Bakool |
| SO-BN | Banaadir |
| SO-BR | Bari |
| SO-BY | Bay |
| SO-GA | Galguduud |
| SO-GE | Gedo |
| SO-HI | Hürsan |
| SO-JD | Jubbada Dhexe |
| SO-JH | Jubbada Hoose |
| SO-MU | Mudug |
| SO-NU | Nugaal |
| SO-SA | Saneag |
| SO-SD | Shabeellaha Dhexe |
| SO-SH | Shabeellaha Hoose |
| SO-SO | Sool |
| SO-TO | Togdheer |
| SO-WO | Woqooyi Galbeed |
| SR-BR | Brokopondo |
| SR-CM | Commewijne |
| SR-CR | Coronie |
| SR-MA | Marowijne |
| SR-NI | Nickerie |
| SR-PR | Para |
| SR-PM | Paramaribo |
| SR-SA | Saramacca |
| SR-SI | Sipaliwini |
| SR-WA | Wanica |
| SD-EC | Central Equatoria |
| SD-EE8 | Eastern Equatoria |
| SD-JG | Jonglei |
| SD-LK | Lakes |
| SD-BN | Northern Bahr el-Ghazal |
| SD-UY | Unity |
| SD-NU | Upper Nile |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|------------------------|
| SD-WR | Warrap |
| SD-BW | Western Bahr el-Ghazal |
| SD-EW | Western Equatoria |
| ST-P | Príncipe |
| ST-S | São Tomé |
| SV-AH | Ahuachapán |
| SV-CA | Cabañas |
| SV-CU | Cuscatlán |
| SV-CH | Chalatenango |
| SV-LI | La Libertad |
| SV-PA | La Paz |
| SV-UN | La Unión |
| SV-MO | Morazán |
| SV-SM | San Miguel |
| SV-SS | San Salvador |
| SV-SA | Santa Ana |
| SV-SV | San Vicente |
| SV-SO | Sonsonate |
| SV-US | Usulután |
| SY-HA | Al Hasakah |
| SY-LA | Al Ladhiqiyah |
| SY-QU | Al Qunaytirah |
| SY-RA | Ar Raqqah |
| SY-SU | As Suwayda' |
| SY-DR | Dar'a |
| SY-DY | Dayr az Zawr |
| SY-DI | Dimashq |
| SY-HL | Halab |
| SY-HM | Hamah |
| SY-HI | Homs |
| SY-ID | Idlib |
| SY-RD | Rif Dimashq |
| SY-TA | Tartus |
| SZ-HH | Hhohho |
| SZ-LU | Lubombo |
| SZ-MA | Manzini |
| SZ-SH | Shiselweni |
| TD-BA | Al Bathah |
| TD-LC | Al Buhayrah |
| TD-BG | Bahr al Ghazāl |
| TD-BO | Būrkū |
| TD-HL | Ḩajjar Lamīs |
| TD-EN | Innīdī |
| TD-KA | Kānim |
| TD-LO | Lūqūn al Gharbī |
| TD-LR | Lūqūn ash Sharqī |
| TD-ND | Madīnat Injamīnā |
| TD-MA | Māndūl |
| TD-MO | Māyū Kibbī al Gharbī |
| TD-ME | Māyū Kibbī ash Sharqī |
| TD-GR | Qīrā |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|--------------------------------|
| TD-SA | Salāmāt |
| TD-MC | Shārī al Awsaṭ |
| TD-CB | Shārī Bāqirmī |
| TD-SI | Sīlā |
| TD-TA | Tānjīlī |
| TD-TI | Tibastī |
| TD-OD | Waddāy |
| TD-WF | Wādī Fīrā |
| TG-C | Région du Centre |
| TG-K | Région de la Kara |
| TG-M | Région Maritime |
| TG-P | Région des Plateaux |
| TG-S | Région des Savannes |
| TH-10 | Krung Thep Maha Nakhon Bangkok |
| TH-S | Phatthaya |
| TH-37 | Amnat Charoen |
| TH-15 | Ang Thong |
| TH-31 | Buri Ram |
| TH-24 | Chachoengsao |
| TH-18 | Chai Nat |
| TH-36 | Chaiyaphum |
| TH-22 | Chanthaburi |
| TH-50 | Chiang Mai |
| TH-57 | Chiang Rai |
| TH-20 | Chon Buri |
| TH-86 | Chumphon |
| TH-46 | Kalasin |
| TH-62 | Kamphaeng Phet |
| TH-71 | Kanchanaburi |
| TH-40 | Khon Kaen |
| TH-81 | Krabi |
| TH-52 | Lampang |
| TH-51 | Lamphun |
| TH-42 | Loei |
| TH-16 | Lop Buri |
| TH-58 | Mae Hong Son |
| TH-44 | Maha Sarakham |
| TH-49 | Mukdahan |
| TH-26 | Nakhon Nayok |
| TH-73 | Nakhon Pathom |
| TH-48 | Nakhon Phanom |
| TH-30 | Nakhon Ratchasima |
| TH-60 | Nakhon Sawan |
| TH-80 | Nakhon Si Thammarat |
| TH-55 | Nan |
| TH-96 | Narathiwat |
| TH-39 | Nong Bua Lam Phu |
| TH-43 | Nong Khai |
| TH-12 | Nonthaburi |
| TH-13 | Pathum Thani |
| TH-94 | Pattani |

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Table A.5.1 – continued from previous page

| Key | Description |
|-------|--------------------------|
| TH-82 | Phangnga |
| TH-93 | Phatthalung |
| TH-56 | Phayao |
| TH-67 | Phetchabun |
| TH-76 | Phetchaburi |
| TH-66 | Phichit |
| TH-65 | Phitsanulok |
| TH-54 | Phrae |
| TH-14 | Phra Nakhon Si Ayutthaya |
| TH-83 | Phuket |
| TH-25 | Prachin Buri |
| TH-77 | Prachuap Khiri Khan |
| TH-85 | Ranong |
| TH-70 | Ratchaburi |
| TH-21 | Rayong |
| TH-45 | Roi Et |
| TH-27 | Sa Kaeo |
| TH-47 | Sakon Nakhon |
| TH-11 | Samut Prakan |
| TH-74 | Samut Sakhon |
| TH-75 | Samut Songkhram |
| TH-19 | Saraburi |
| TH-91 | Satun |
| TH-17 | Sing Buri |
| TH-33 | Si Sa Ket |
| TH-90 | Songkhla |
| TH-64 | Sukhothai |
| TH-72 | Suphan Buri |
| TH-84 | Surat Thani |
| TH-32 | Surin |
| TH-63 | Tak |
| TH-92 | Trang |
| TH-23 | Trat |
| TH-34 | Ubon Ratchathani |
| TH-41 | Udon Thani |
| TH-61 | Uthai Thani |
| TH-53 | Uttaradit |
| TH-95 | Yala |
| TH-35 | Yasothon |
| TJ-GB | Gorno-Badakhshan |
| TJ-KT | Khatlon |
| TJ-SU | Sughd |
| TL-AL | Aileu |
| TL-AN | Ainaro |
| TL-BA | Baucau |
| TL-BO | Bobonaro |
| TL-CO | Cova Lima |
| TL-DI | Díli |
| TL-ER | Ermera |
| TL-LA | Lautem |
| TL-LI | Liquiça |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|----------------|
| TL-MT | Manatuto |
| TL-MF | Manufahi |
| TL-OE | Oecussi |
| TL-VI | Viqueque |
| TM-A | Ahal |
| TM-B | Balkan |
| TM-D | Daşoguz |
| TM-L | Lebap |
| TM-M | Mary |
| TM-S | Aşgabat |
| TN-12 | Ariana |
| TN-31 | Béja |
| TN-13 | Ben Arous |
| TN-23 | Bizerte |
| TN-81 | Gabès |
| TN-71 | Gafsa |
| TN-32 | Jendouba |
| TN-41 | Kairouan |
| TN-42 | Kasserine |
| TN-73 | Kebili |
| TN-33 | Le Kef |
| TN-53 | Mahdia |
| TN-14 | La Manouba |
| TN-82 | Medenine |
| TN-52 | Monastir |
| TN-21 | Nabeul |
| TN-61 | Sfax |
| TN-43 | Sidi Bouzid |
| TN-34 | Siliana |
| TN-51 | Sousse |
| TN-83 | Tataouine |
| TN-72 | Tozeur |
| TN-11 | Tunis |
| TN-22 | Zaghuan |
| TO-01 | 'Eua |
| TO-02 | Ha'apai |
| TO-03 | Niuas |
| TO-04 | Tongatapu |
| TO-05 | Vava'u |
| TR-01 | Adana |
| TR-02 | Aduyaman |
| TR-03 | Afyonkarahisar |
| TR-04 | Ağrı |
| TR-68 | Aksaray |
| TR-05 | Amasya |
| TR-06 | Ankara |
| TR-07 | Antalya |
| TR-75 | Ardahan |
| TR-08 | Artvin |
| TR-09 | Aydın |
| TR-10 | Balıkesir |

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Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------|
| TR-74 | Bartın |
| TR-72 | Batman |
| TR-69 | Bayburt |
| TR-11 | Bilecik |
| TR-12 | Bingöl |
| TR-13 | Bitlis |
| TR-14 | Bolu |
| TR-15 | Burdur |
| TR-16 | Bursa |
| TR-17 | Çanakkale |
| TR-18 | Çankırı |
| TR-19 | Çorum |
| TR-20 | Denizli |
| TR-21 | Diyarbakır |
| TR-81 | Düzce |
| TR-22 | Edirne |
| TR-23 | Elazığ |
| TR-24 | Erzincan |
| TR-25 | Erzurum |
| TR-26 | Eskişehir |
| TR-27 | Gaziantep |
| TR-28 | Giresun |
| TR-29 | Gümüşhane |
| TR-30 | Hakkâri |
| TR-31 | Hatay |
| TR-76 | İğdır |
| TR-32 | Isparta |
| TR-34 | İstanbul |
| TR-35 | İzmir |
| TR-46 | Kahramanmaraş |
| TR-78 | Karabük |
| TR-70 | Karaman |
| TR-36 | Kars |
| TR-37 | Kastamonu |
| TR-38 | Kayseri |
| TR-71 | Kırıkkale |
| TR-39 | Kırklareli |
| TR-40 | Kırşehir |
| TR-79 | Kilis |
| TR-41 | Kocaeli |
| TR-42 | Konya |
| TR-43 | Kütahya |
| TR-44 | Malatya |
| TR-45 | Manisa |
| TR-47 | Mardin |
| TR-33 | Mersin |
| TR-48 | Muğla |
| TR-49 | Muş |
| TR-50 | Nevşehir |
| TR-51 | Niğde |
| TR-52 | Ordu |

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Table A.5.1 – continued from previous page

| Key | Description |
|--------|-------------------------|
| TR-80 | Osmaniye |
| TR-53 | Rize |
| TR-54 | Sakarya |
| TR-55 | Samsun |
| TR-56 | Şiirt |
| TR-57 | Sinop |
| TR-58 | Sivas |
| TR-63 | Şanlıurfa |
| TR-73 | Şırnak |
| TR-59 | Tekirdağ |
| TR-60 | Tokat |
| TR-61 | Trabzon |
| TR-62 | Tunceli |
| TR-64 | Uşak |
| TR-65 | Van |
| TR-77 | Yalova |
| TR-66 | Yozgat |
| TR-67 | Zonguldak |
| TT-CTT | Couva-Tabaquite-Talparo |
| TT-DMN | Diego Martín |
| TT-ETO | Eastern Tobago |
| TT-PED | Penal-Debe |
| TT-PRT | Princes Town |
| TT-RCM | Rio Claro-Mayaro |
| TT-SGE | Sangre Grande |
| TT-SJL | San Juan-Laventille |
| TT-SIP | Siparia |
| TT-TUP | Tunapuna-Piarco |
| TT-WTO | Western Tobago |
| TT-ARI | Arima |
| TT-CHA | Chaguanas |
| TT-PTF | Point Fortin |
| TT-POS | Port of Spain |
| TT-SFO | San Fernando |
| TV-FUN | Funafuti |
| TV-NMG | Nanumanga |
| TV-NMA | Nanumea |
| TV-NIT | Niutao |
| TV-NUI | Nui |
| TV-NKF | Nukufetau |
| TV-NKL | Nukulaelae |
| TV-VAI | Vaitupu |
| TW-CHA | Changhua |
| TW-CYQ | Chiayi |
| TW-HSQ | Hsinchu |
| TW-HUA | Hualien |
| TW-ILA | Ilan |
| TW-KHQ | Kaohsiung |
| TW-MIA | Miaoli |
| TW-NAN | Nantou |
| TW-PEN | Penghu |

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Table A.5.1 – continued from previous page

| Key | Description |
|--------|---------------------------|
| TW-PIF | Pingtung |
| TW-TXQ | Taichung |
| TW-TNQ | Tainan |
| TW-TPQ | Taipei |
| TW-TTT | Taitung |
| TW-TAO | Taoyuan |
| TW-YUN | Yunlin |
| TW-CYI | Chiay City |
| TW-HSZ | Hsinchui City |
| TW-KEE | Keelung City |
| TW-TXG | Taichung City |
| TW-TNN | Tainan City |
| TW-KHH | Kaohsiung City |
| TW-TPE | Taipei City |
| TZ-01 | Arusha |
| TZ-02 | Dar-es-Salaam |
| TZ-03 | Dodoma |
| TZ-04 | Iringa |
| TZ-05 | Kagera |
| TZ-06 | Kaskazini Pemba |
| TZ-07 | Kaskazini Unguja |
| TZ-08 | Kigoma |
| TZ-09 | Kilimanjaro |
| TZ-10 | Kusini Pemba |
| TZ-11 | Kusini Unguja |
| TZ-12 | Lindi |
| TZ-26 | Manyara |
| TZ-13 | Mara |
| TZ-14 | Mbeya |
| TZ-15 | Mjini Magharibi |
| TZ-16 | Morogoro |
| TZ-17 | Mtwara |
| TZ-18 | Mwanza |
| TZ-19 | Pwani |
| TZ-20 | Rukwa |
| TZ-21 | Ruvuma |
| TZ-22 | Shinyanga |
| TZ-23 | Singida |
| TZ-24 | Tabora |
| TZ-25 | Tanga |
| UA-71 | Cherkas'ka Oblast' |
| UA-74 | Chernihivs'ka Oblast' |
| UA-77 | Chernivets'ka Oblast' |
| UA-12 | Dnipropetrovs'ka Oblast' |
| UA-14 | Donets'ka Oblast' |
| UA-26 | Ivano-Frankivs'ka Oblast' |
| UA-63 | Kharkivs'ka Oblast' |
| UA-65 | Khersons'ka Oblast' |
| UA-68 | Khmel'nyts'ka Oblast' |
| UA-35 | Kirovohrads'ka Oblast' |
| UA-32 | Kyivs'ka Oblast' |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-----------------------|
| UA-09 | Luhans'ka Oblast' |
| UA-46 | L'vivs'ka Oblast' |
| UA-48 | Mykolaїvs'ka Oblast' |
| UA-51 | Odes'ka Oblast' |
| UA-53 | Poltavs'ka Oblast' |
| UA-56 | Rivnens'ka Oblast' |
| UA-59 | Sums 'ka Oblast' |
| UA-61 | Ternopil's'ka Oblast' |
| UA-05 | Vinnyts'ka Oblast' |
| UA-07 | Volyns'ka Oblast' |
| UA-21 | Zakarpats'ka Oblast' |
| UA-23 | Zaporiz'ka Oblast' |
| UA-18 | Zhytomyrs'ka Oblast' |
| UA-43 | Respublika Krym |
| UA-30 | Kyїvs'ka mis'ka rada |
| UA-40 | Sevastopol |
| UG-C | Central |
| UG-E | Eastern |
| UG-N | Northern |
| UG-W | Western |
| UG-317 | Abim |
| UG-301 | Adjumani |
| UG-314 | Amolatar |
| UG-216 | Amuria |
| UG-319 | Amuru |
| UG-302 | Apac |
| UG-303 | Arua |
| UG-217 | Budaka |
| UG-223 | Bududa |
| UG-201 | Bugiri |
| UG-224 | Bukedea |
| UG-218 | Bukwa |
| UG-419 | Buliisa |
| UG-401 | Bundibugyo |
| UG-402 | Bushenyi |
| UG-202 | Busia |
| UG-219 | Butaleja |
| UG-318 | Dokolo |
| UG-304 | Gulu |
| UG-403 | Hoima |
| UG-416 | Ibanda |
| UG-203 | Iganga |
| UG-417 | Isingiro |
| UG-204 | Jinja |
| UG-315 | Kaabong |
| UG-404 | Kabale |
| UG-405 | Kabarole |
| UG-213 | Kaberamaido |
| UG-101 | Kalangala |
| UG-220 | Kaliro |
| UG-102 | Kampala |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|----------------|
| UG-205 | Kamuli |
| UG-413 | Kamwenge |
| UG-414 | Kanungu |
| UG-206 | Kapchorwa |
| UG-406 | Kasese |
| UG-207 | Katakwi |
| UG-112 | Kayunga |
| UG-407 | Kibaale |
| UG-103 | Kiboga |
| UG-418 | Kiruhura |
| UG-408 | Kisoro |
| UG-305 | Kitgum |
| UG-316 | Koboko |
| UG-306 | Kotido |
| UG-208 | Kumi |
| UG-415 | Kyenjojo |
| UG-307 | Lira |
| UG-104 | Luwero |
| UG-116 | Lyantonde |
| UG-221 | Manafwa |
| UG-320 | Maracha |
| UG-105 | Masaka |
| UG-409 | Masindi |
| UG-214 | Mayuge |
| UG-209 | Mbale |
| UG-410 | Mbarara |
| UG-114 | Mityana |
| UG-308 | Moroto |
| UG-309 | Moyo |
| UG-106 | Mpigi |
| UG-107 | Mubende |
| UG-108 | Mukono |
| UG-311 | Nakapiripirit |
| UG-115 | Nakaseke |
| UG-109 | Nakasongola |
| UG-222 | Namutumba |
| UG-310 | Nebbi |
| UG-411 | Ntungamo |
| UG-321 | Oyam |
| UG-312 | Pader |
| UG-210 | Pallisa |
| UG-110 | Rakai |
| UG-412 | Rukungiri |
| UG-111 | Sembabule |
| UG-215 | Sironko |
| UG-211 | Soroti |
| UG-212 | Tororo |
| UG-113 | Wakiso |
| UG-313 | Yumbe |
| UM-81 | Baker Island |
| UM-84 | Howland Island |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|------------|--------------------|
| UM-86 | Jarvis Island |
| UM-67 | Johnston Atoll |
| UM-89 | Kingman Reef |
| UM-71 | Midway Islands |
| UM-76 | Navassa Island |
| UM-95 | Palmyra Atoll |
| UM-79 | Wake Island |
| US-AL | Alabama |
| US-AK | Alaska |
| US-AZ | Arizona |
| US-AR | Arkansas |
| US-CA | California |
| US-CO | Colorado |
| US-CT | Connecticut |
| US-DE | Delaware |
| US-FL | Florida |
| US-GA | Georgia |
| US-HI | Hawaii |
| US-ID | Idaho |
| US-IL | Illinois |
| US-IN | Indiana |
| US-IA | Iowa |
| US-KS | Kansas |
| US-KY | Kentucky |
| US-LA | Louisiana |
| US-ME | Maine |
| US-MD | Maryland |
| US-MA | Massachusetts |
| US-MI | Michigan |
| US-MN | Minnesota |
| US-MS | Mississippi |
| US-MO | Missouri |
| US-MT | Montana |
| US-NE | Nebraska |
| US-NV | Nevada |
| US-NH | New Hampshire |
| US-NJ | New Jersey |
| US-NM | New Mexico |
| US-NY | New York |
| US-NC | North Carolina |
| US-ND | North Dakota |
| US-OH | Ohio |
| US-OK | Oklahoma |
| US-OR | Oregon |
| US-PA | Pennsylvania |
| US-RI | Rhode Island |
| US-SC | South Carolina |
| US-SD | South Dakota |
| US-TN | Tennessee |
| US-TX | Texas |
| US-UT | Utah |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|--------------------------------------|
| US-VT | Vermont |
| US-VA | Virginia |
| US-WA | Washington |
| US-WV | West Virginia |
| US-WI | Wisconsin |
| US-WY | Wyoming |
| US-DC | District of Columbia |
| US-AS | American Samoa |
| US-GU | Guam |
| US-MP | Northern Mariana Islands |
| US-PR | Puerto Rico |
| US-UM | United States Minor Outlying Islands |
| US-VI | Virgin Islands |
| UY-AR | Artigas |
| UY-CA | Canelones |
| UY-CL | Cerro Largo |
| UY-CO | Colonia |
| UY-DU | Durazno |
| UY-FS | Flores |
| UY-FD | Florida |
| UY-LA | Lavalleja |
| UY-MA | Maldonado |
| UY-MO | Montevideo |
| UY-PA | Paysandú |
| UY-RN | Río Negro |
| UY-RV | Rivera |
| UY-RO | Rocha |
| UY-SA | Salto |
| UY-SJ | San José |
| UY-SO | Soriano |
| UY-TA | Tacuarembó |
| UY-TT | Treinta y Tres |
| UZ-TK | Toshkent |
| UZ-AN | Andijon |
| UZ-BU | Buxoro |
| UZ-FA | Farg'ona |
| UZ-JI | Jizzax |
| UZ-NG | Namangan |
| UZ-NW | Navoiy |
| UZ-QA | Qashqadaryo |
| UZ-SA | Samarqand |
| UZ-SI | Sirdaryo |
| UZ-SU | Surxondaryo |
| UZ-TO | Toshkent |
| UZ-XO | Xorazm |
| UZ-QR | Qoraqalpog'iston Respublikasi |
| VC-01 | Charlotte |
| VC-06 | Grenadines |
| VC-02 | Saint Andrew |
| VC-03 | Saint David |
| VC-04 | Saint George |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|------------------------|
| VC-05 | Saint Patrick |
| VE-W | Dependencias Federales |
| VE-A | Distrito Federal |
| VE-Z | Amazonas |
| VE-B | Anzoátegui |
| VE-C | Apure |
| VE-D | Aragua |
| VE-E | Barinas |
| VE-F | Bolívar |
| VE-G | Carabobo |
| VE-H | Cojedes |
| VE-Y | Delta Amacuro |
| VE-I | Falcón |
| VE-J | Guárico |
| VE-K | Lara |
| VE-L | Mérida |
| VE-M | Miranda |
| VE-N | Monagas |
| VE-O | Nueva Esparta |
| VE-P | Portuguesa |
| VE-R | Sucre |
| VE-S | Táchira |
| VE-T | Trujillo |
| VE-X | Vargas |
| VE-U | Yaracuy |
| VE-V | Zulia |
| VN-44 | An Giang |
| VN-43 | Bà Rịa-Vũng Tàu |
| VN-54 | Bắc Giang |
| VN-53 | Bắc Kạn |
| VN-55 | Bạc Liêu |
| VN-56 | Bắc Ninh |
| VN-50 | Bến Tre |
| VN-31 | Bình Định |
| VN-57 | Bình Dương |
| VN-58 | Bình Phước |
| VN-40 | Bình Thuận |
| VN-59 | Cà Mau |
| VN-04 | Cao Bằng |
| VN-33 | Dăk Lăk |
| VN-72 | Dăk Nông |
| VN-71 | Điện Biên |
| VN-39 | Đồng Nai |
| VN-45 | Đồng Tháp |
| VN-30 | Gia Lai |
| VN-03 | Hà Giang |
| VN-63 | Hà Nam |
| VN-15 | Hà Tây |
| VN-23 | Hà Tĩnh |
| VN-61 | Hải Duong |
| VN-73 | Hậu Giang |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|--------|-----------------------|
| VN-14 | Hoà Bình |
| VN-66 | Hưng Yên |
| VN-34 | Khánh Hòa |
| VN-47 | Kiên Giang |
| VN-28 | Kon Tum |
| VN-01 | Lai Châu |
| VN-35 | Lâm Đồng |
| VN-09 | Lạng Sơn |
| VN-02 | Lào Cai |
| VN-41 | Long An |
| VN-67 | Nam Định |
| VN-22 | Nghệ An |
| VN-18 | Ninh Bình |
| VN-36 | Ninh Thuận |
| VN-68 | Phú Thọ |
| VN-32 | Phú Yên |
| VN-24 | Quảng Bình |
| VN-27 | Quảng Nam |
| VN-29 | Quảng Ngãi |
| VN-13 | Quảng Ninh |
| VN-25 | Quảng Trị |
| VN-52 | Sóc Trăng |
| VN-05 | Sơn La |
| VN-37 | Tây Ninh |
| VN-20 | Thái Bình |
| VN-69 | Thái Nguyên |
| VN-21 | Thanh Hóa |
| VN-26 | Thừa Thiên-Huế |
| VN-46 | Tiền Giang |
| VN-51 | Trà Vinh |
| VN-07 | Tuyên Quang |
| VN-49 | Vĩnh Long |
| VN-70 | Vĩnh Phúc |
| VN-06 | Yên Bái |
| VN-CT | Cần Thơ |
| VN-DN | Đà Nẵng |
| VN-HN | Hà Nội |
| VN-HP | Hải Phòng |
| VN-SG | Hồ Chí Minh [Sài Gòn] |
| VU-MAP | Malampa |
| VU-PAM | Pénama |
| VU-SAM | Sanma |
| VU-SEE | Shéfa |
| VU-TAE | Taféa |
| VU-TOB | Torba |
| WS-AA | A'ana |
| WS-AL | Aiga-i-le-Tai |
| WS-AT | Atua |
| WS-FA | Fa'asaleleaga |
| WS-GE | Gaga'emauga |
| WS-GI | Gagaifomauga |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|---------------------------|
| WS-PA | Palauli |
| WS-SA | Satupa'itea |
| WS-TU | Tuamasaga |
| WS-VF | Va'a-o-Fonoti |
| WS-VS | Vaisigano |
| YE-AB | Abyān |
| YE-AD | 'Adan |
| YE-DA | Ad Dāli' |
| YE-BA | Al Bay ā' |
| YE-MU | Al udaydah |
| YE-JA | Al Jawf |
| YE-MR | Al Mahrah |
| YE-MW | Al Ma wīt |
| YE-AM | 'Amrān |
| YE-DH | Dhamār |
| YE-HD | a ramawt |
| YE-HJ | ajjah |
| YE-IB | Ibb |
| YE-LA | La ij |
| YE-MA | Ma'rib |
| YE-RA | Raymah |
| YE-SD | Şa'dah |
| YE-SN | Şan'ā' |
| YE-SH | Shabwah |
| YE-TA | Tā'izz |
| ZA-EC | Eastern Cape |
| ZA-FS | Free State |
| ZA-GP | Gauteng |
| ZA-ZN | Kwazulu-Natal |
| ZA-LP | Limpopo |
| ZA-MP | Mpumalanga |
| ZA-NC | Northern Cape |
| ZA-NW | North-West (South Africa) |
| ZA-WC | Western Cape |
| ZM-02 | Central |
| ZM-08 | Copperbelt |
| ZM-03 | Eastern |
| ZM-04 | Luapula |
| ZM-09 | Lusaka |
| ZM-05 | Northern |
| ZM-06 | North-Western |
| ZM-07 | Southern (Zambia) |
| ZM-01 | Western |
| ZW-BU | Bulawayo |
| ZW-HA | Harare |
| ZW-MA | Manicaland |
| ZW-MC | Mashonaland Central |
| ZW-ME | Mashonaland East |
| ZW-MW | Mashonaland West |
| ZW-MV | Masvingo |
| ZW-MN | Matabeleland North |

Continued on next page

Table A.5.1 – continued from previous page

| Key | Description |
|-------|--------------------|
| ZW-MS | Matabeleland South |
| ZW-MI | Midlands |

(See them at http://www.iso.org/iso/country_codes.htm, http://en.wikipedia.org/wiki/ISO_3166-2, <http://unstats.un.org/unsd/methods/m49/m49.htm>, <http://unstats.un.org/unsd/methods/m49/m49regin.htm> and <http://unstats.un.org/unsd/methods/m49/m49alpha.htm>)

Table A.5.2: ISO 3166-1, ISO 3166-2 and UN M.49 aliases

| Alias | Key | Description |
|-------|--|------------------------------------|
| 001 | 019, 002, 150, 142, 009 | World |
| 011 | BF, BJ, CI, CV, GH, GM, GN, GW, LR, ML, MR, NE, NG, SH, SL, SN, TG | Western Africa |
| 013 | BZ, CR, GT, HN, MX, NI, PA, SV | Central America |
| 014 | BI, DJ, ER, ET, KE, KM, MG, MU, MW, MZ, RE, RW, SC, SO, TZ, UG, YT, ZM, ZW | Eastern Africa |
| 142 | 145, 143, 030, 034, 035 | Asia |
| 143 | TM, TJ, KG, KZ, UZ | Central Asia |
| 145 | AE, AM, AZ, BH, CY, GE, IL, IQ, JO, KW, LB, OM, PS, QA, SA, SY, TR, YE | Western Asia |
| 015 | DZ, EG, EH, LY, MA, SD, SS, TN | Northern Africa |
| 150 | 154, 155, 151, 039, EU | Europe |
| 151 | BG, BY, CZ, HU, MD, PL, RO, RU, SK, UA | Eastern Europe |
| 154 | GG, IM, JE, AX, DK, EE, FI, FO, GB, IE, IS, LT, LV, NO, SE, SJ | Northern Europe |
| 155 | AT, BE, CH, DE, FR, LI, LU, MC, NL | Western Europe |
| 017 | AO, CD, CF, CG, CM, GA, GQ, ST, TD | Middle Africa |
| 018 | BW, LS, NA, SZ, ZA | Southern Africa |
| 019 | 021, 013, 029, 005, 003, 419 | Americas |
| 002 | 015, 011, 017, 014, 018 | Africa |
| 021 | BM, CA, GL, PM, US | Northern America |
| 029 | AG, AI, AW, BB, BL, BQ, BS, CU, CW, DM, DO, GD, GP, HT, JM, KN, KY, LC, MF, MQ, MS, PR, SX, TC, TT, VC, VG, VI | Caribbean |
| 003 | 021, 013, 029 | North America |
| 030 | CN, HK, JP, KP, KR, MN, MO, TW | Eastern Asia |
| 035 | BN, ID, KH, LA, MM, MY, PH, SG, TH, TL, VN | South-Eastern Asia |
| 039 | AD, AL, BA, ES, GI, GR, HR, IT, ME, MK, MT, RS, PT, SI, SM, VA | Southern Europe, XK not in UN data |
| 419 | 013, 029, 005 | Latin America and the Caribbean |

Continued on next page

Table A.5.2 – continued from previous page

| Alias | Key | Description |
|--------------|--|---|
| 005 | AR, BO, BR, CL, CO, EC, FK, GF, GY, PE, PY, SR, UY, VE | South America |
| 053 | AU, NF, NZ | Australia and New Zealand |
| 054 | FJ, NC, PG, SB, VU | Melanesia |
| 057 | FM, GU, KI, MH, MP, NR, PW | Micronesia |
| 061 | AS, CK, NU, PF, PN, TK, TO, TV, WF, WS | Polynesia |
| 034 | AF, BD, BT, IN, IR, LK, MV, NP, PK | Southern Asia |
| 009 | 053, 054, 057, 061, QO | Oceania |
| QO | AQ, BV, CC, CX, GS, HM, IO, TF, UM | Outlying Oceania |
| EU | AT, BE, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, SE, SI, SK, BG, RO | European Union, see http://europa.eu/abc/european-countries/index_en.htm |
| ALIAS:EAL | GB-CAM, GB-ESS, GB-HRT, GB-NFK, GB-SFK | East Anglia: United Kingdom region composed of the administrative counties of Norfolk to the north, Suffolk to the south, Cambridgeshire and Essex to the west. |

A.6 Institution ID

This controlled vocabulary has 53 terms

Please contact BLUEPRINT DCC if your institution is not listed, or you wish to modify the text

Table A.6.1: Institution ID

| ID | Institution |
|-----------|--|
| 1 | Radboud University Nijmegen (H.G. Stunnenberg) |
| 2a | University College London (S. Beck) |
| 2b | University College London (T. Enver) |
| 3a | University of Cambridge (A. Ferguson-Smith) |
| 3b | University of Cambridge (W. H.Ouwéhand) |
| 4 | Friedrich Miescher Institute (D. Schübeler) |
| 5 | Christian Albrechts University of Kiel (R. Siebert) |
| 6 | National Cancer Research Centre Spain (A. Valencia) |
| 7a | Institute of Molecular Oncology Foundation - European Institute of Oncology (P.G. Pelicci) |
| 7b | Institute of Molecular Oncology Foundation - European Institute of Oncology (S. Minucci) |
| 8 | European Bioinformatics Institute (P. Flicek) |
| 9a | Wellcome Trust Sanger Institute (M. Stratton) |
| 9b | Wellcome Trust Sanger Institute (D. Adams) |
| 9c | Wellcome Trust Sanger Institute (N. Soranzo) |
| 10 | Bellvitge Institute for Biomedical Research (M. Esteller) |
| 11 | Centro Nacional de Análisis Genómico (I. Gut) |
| 12a | Max Planck Institute for Bioinformatics (T. Lengauer/C.Bock) |
| 12b | Max Planck Institute for Molecular Genetics (H. Lehrach) |

Continued on next page

Table A.6.1 – continued from previous page

| ID | Institution |
|-----|--|
| 12c | Max Planck Institute for Molecular Genetics (M. Vingron) |
| 12d | Max Planck Institute for Molecular Genetics, Dpt Vertebrate Genomics (M-L Yaspo) |
| 13 | University of Saarland (J. Walter) |
| 14 | Second University of Naples (L. Altucci) |
| 15a | Centre for Genomic Regulation (X. Estivill) |
| 15b | Centre for Genomic Regulation (R. Guigo) |
| 15c | Centre for Genomic Regulation (T. Graf) |
| 16a | Queen Mary, University of London (D. Leslie/V. Rakyan) |
| 16b | Queen Mary, University of London (J. Fitzgibbon) |
| 17 | The Babraham Institute (W. Reik) |
| 18 | Cellzome AG (D. Simmons) |
| 19 | Diagenode SA (D. Allaer) |
| 20 | Olink Genomics (F. Dahl) |
| 21 | Genomatix Software GmbH (M. Seifert) |
| 22 | Oxford Nanopore Technologies Ltd (S. Willcocks) |
| 23 | Siena Biotech SpA (A. Caricasole) |
| 24 | Centre of Immunology of Marseille-Luminy (S. Spicuglia) |
| 25 | Institut d'Investigacions Biomèdiques August Pi i Sunyer (E. Campo) |
| 26 | Weizmann Institute of Science (A. Tanay) |
| 27 | Erasmus University Medical Centre Rotterdam (F. Grosveld) |
| 28 | Universitaetsklinikum Ulm (B. Böhm) |
| 29 | University of Edinburgh (A. Bird) |
| 30 | Lund University (A. Lernmark) |
| 31 | University of Copenhagen (K. Helin) |
| 32 | Sapienza University of Rome (A. Mai) |
| 33 | Vivia Biotech S.L. (J. Ballesteros) |
| 34 | University of Geneva (M. Dermitzakis, S. Antonorakis) |
| 35 | University Medical Centre Groningen (E. Vellenga) |
| 36 | Neckar Hospital (Elizabeth Macintyre) |
| 37 | Epigenomics AG (R. Wasserkort) |
| 38 | University of Duisburg-Essen (R. Küppers) |
| 39 | University of Leipzig (M. Löffler) |
| 40 | Barcelona Supercomputing Center (D. Torrents) |
| 41 | Sigolis (J. Jarvius) |
| 42 | Eurice (V. Siegmund) |

A.7 Value Codes for Platform or Validation Platform

This controlled vocabulary has 75 terms

Please contact the DCC if your platform/technology is not listed here.

Continued on next page

Table A.7.1 – continued from previous page

| Key | Platform or Validation Platform |
|--|--|
| Table A.7.1: Value Codes for Platform or Validation Platform | |
| 1 | PCR |
| 2 | qPCR |
| 3 | capillary sequencing |
| 4 | SOLiD sequencing |
| 5 | Illumina GA sequencing |
| 6 | 454 sequencing |
| 7 | Helicos sequencing |
| 8 | Affymetrix Genome-Wide Human SNP Array 6.0 |
| 9 | Affymetrix Genome-Wide Human SNP Array 5.0 |
| 10 | Affymetrix Mapping 100K Array Set |
| 11 | Affymetrix Mapping 500K Array Set |
| 12 | Affymetrix Mapping 10K 2.0 Array Set |
| 13 | Affymetrix EMET Plus Premier Pack |
| 14 | Agilent Whole Human Genome Oligo Microarray Kit |
| 15 | Agilent Human Genome 244A |
| 16 | Agilent Human Genome 105A |
| 17 | Agilent Human CNV Association 2x105K |
| 18 | Agilent Human Genome 44K |
| 19 | Agilent Human CGH 1x1M |
| 20 | Agilent Human CGH 2x400K |
| 21 | Agilent Human CGH 4x180K |
| 22 | Agilent Human CGH 8x60K |
| 23 | Agilent Human CNV 2x400K |
| 24 | Agilent Human miRNA Microarray Kit (v2) |
| 25 | Agilent Human CpG Island Microarray Kit |
| 26 | Agilent Human Promoter ChIP-on-chip Microarray Set |
| 27 | Agilent Human SpliceArray |
| 28 | Illumina human1m-duo |
| 29 | Illumina human660w-quad |
| 30 | Illumina humancytosnp-12 |
| 31 | Illumina human510s-duo |
| 32 | Illumina humanmethylation27 |
| 33 | Illumina goldengate methylation |
| 34 | Illumina HumanHT-12 v4.0 beadchip |
| 35 | Illumina HumanWG-6 v3.0 beadchip |
| 36 | Illumina HumanRef-8 v3.0 beadchip |
| 37 | Illumina microRNA Expression Profiling Panel |
| 38 | Illumina humanht-16 |
| 39 | Illumina humanht-17 |
| 40 | Nimblegen Human CGH 3x720 Whole-Genome v3.0 Array |
| 41 | Nimblegen Human CGH 2.1M Whole-Genome v2.0D Array |
| 42 | Nimblegen Gene Expression 385K |
| 43 | Nimblegen Gene Expression 4x72K |
| 44 | Nimblegen Gene Expression 12x135K |

Continued on next page

Table A.7.1 – continued from previous page

| Key | Platform or Validation Platform |
|------------|--|
| 45 | Nimblegen Human Methylation 2.1M Whole-Genome sets |
| 46 | Nimblegen Human Methylation 385K Whole-Genome sets |
| 47 | Nimblegen CGS |
| 48 | Illumina Human1M OmniQuad chip |
| 49 | PCR and capillary sequencing |
| 50 | Custom-designed gene expression array |
| 51 | Affymetrix HT Human Genome U133A Array Plate Set |
| 52 | Agilent 244K Custom Gene Expression G4502A-07-1 |
| 53 | Agilent 244K Custom Gene Expression G4502A-07-2 |
| 54 | Agilent 244K Custom Gene Expression G4502A-07-3 |
| 55 | Agilent Human Genome CGH Custom Microarray 2x415K |
| 56 | Affymetrix Human U133 Plus PM |
| 57 | Affymetrix Human U133 Plus 2.0 |
| 58 | Affymetrix Human Exon 1.0 ST |
| 59 | Almac Human CRC |
| 60 | Illumina HiSeq |
| 61 | Affymetrix Human MIP 330K |
| 62 | Affymetrix Human Gene 1.0 ST |
| 63 | Illumina Human Omni1-Quad beadchip |
| 64 | Sequenom MassARRAY |
| 65 | Custom-designed cDNA array |
| 66 | Illumina HumanHap550 |
| 67 | Ion Torrent PGM |
| 68 | Illumina GoldenGate Methylation Cancer Panel I |
| 69 | Illumina Infinium HumanMethylation450 |
| 70 | Agilent 8 x 15K Human miRNA-specific microarray |
| 71 | M.D. Anderson Reverse Phase Protein Array Core |
| 72 | Microsatellite Instability Analysis |
| 73 | Agilent 244K Custom Gene Expression G4502A-07 |
| 74 | Illumina HumanCNV370-Duo v1.0 BeadChip |
| 75 | Illumina HumanOmniExpress BeadChip |

A.8 Chromosome Names for Reference Genome GRCh37

This controlled vocabulary has 137 terms

Table A.8.1: Chromosome Names for Reference Genome GRCh37

| Key | Chromosome Name |
|------------|------------------------|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |

Continued on next page

Table A.8.1 – continued from previous page

| Key | Chromosome Name |
|-----------|-----------------|
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |
| 11 | 11 |
| 12 | 12 |
| 13 | 13 |
| 14 | 14 |
| 15 | 15 |
| 16 | 16 |
| 17 | 17 |
| 18 | 18 |
| 19 | 19 |
| 20 | 20 |
| 21 | 21 |
| 22 | 22 |
| X | X |
| Y | Y |
| MT | MT |
| c5_H2 | c5_H2 |
| c6_COX | c6_COX |
| c6_QBL | c6_QBL |
| NT_113870 | NT_113870 |
| NT_113871 | NT_113871 |
| NT_113872 | NT_113872 |
| NT_113874 | NT_113874 |
| NT_113878 | NT_113878 |
| NT_113880 | NT_113880 |
| NT_113881 | NT_113881 |
| NT_113884 | NT_113884 |
| NT_113885 | NT_113885 |
| NT_113886 | NT_113886 |
| NT_113888 | NT_113888 |
| NT_113889 | NT_113889 |
| NT_113890 | NT_113890 |
| NT_113898 | NT_113898 |
| NT_113899 | NT_113899 |
| NT_113901 | NT_113901 |
| NT_113902 | NT_113902 |
| NT_113903 | NT_113903 |
| NT_113906 | NT_113906 |
| NT_113908 | NT_113908 |
| NT_113909 | NT_113909 |
| NT_113910 | NT_113910 |
| NT_113911 | NT_113911 |
| NT_113912 | NT_113912 |
| NT_113915 | NT_113915 |
| NT_113916 | NT_113916 |
| NT_113917 | NT_113917 |
| NT_113923 | NT_113923 |
| NT_113924 | NT_113924 |
| NT_113925 | NT_113925 |

Continued on next page

Table A.8.1 – continued from previous page

| Key | Chromosome Name |
|---------------------|------------------------|
| NT_113926 | NT_113926 |
| NT_113927 | NT_113927 |
| NT_113929 | NT_113929 |
| NT_113930 | NT_113930 |
| NT_113931 | NT_113931 |
| NT_113932 | NT_113932 |
| NT_113933 | NT_113933 |
| NT_113934 | NT_113934 |
| NT_113935 | NT_113935 |
| NT_113936 | NT_113936 |
| NT_113937 | NT_113937 |
| NT_113939 | NT_113939 |
| NT_113943 | NT_113943 |
| NT_113944 | NT_113944 |
| NT_113946 | NT_113946 |
| NT_113949 | NT_113949 |
| NT_113951 | NT_113951 |
| NT_113953 | NT_113953 |
| NT_113954 | NT_113954 |
| NT_113956 | NT_113956 |
| NT_113957 | NT_113957 |
| NT_113958 | NT_113958 |
| NT_113960 | NT_113960 |
| NT_113961 | NT_113961 |
| NT_113962 | NT_113962 |
| NT_113963 | NT_113963 |
| NT_113964 | NT_113964 |
| NT_113965 | NT_113965 |
| NT_113966 | NT_113966 |
| HSCHR17_1 | HSCHR17_1 |
| HSCHR17_RANDOM_CTG2 | HSCHR17_RANDOM_CTG2 |
| HSCHR17_RANDOM_CTG3 | HSCHR17_RANDOM_CTG3 |
| HSCHR19_RANDOM_CTG2 | HSCHR19_RANDOM_CTG2 |
| HSCHR1_RANDOM_CTG12 | HSCHR1_RANDOM_CTG12 |
| HSCHR1_RANDOM_CTG5 | HSCHR1_RANDOM_CTG5 |
| HSCHR4_RANDOM_CTG2 | HSCHR4_RANDOM_CTG2 |
| HSCHR4_RANDOM_CTG3 | HSCHR4_RANDOM_CTG3 |
| HSCHR6_MHC_APD | HSCHR6_MHC_APD |
| HSCHR6_MHC_COX | HSCHR6_MHC_COX |
| HSCHR6_MHC_DBB | HSCHR6_MHC_DBB |
| HSCHR6_MHC_MANN | HSCHR6_MHC_MANN |
| HSCHR6_MHC_MCF | HSCHR6_MHC_MCF |
| HSCHR6_MHC_QBL | HSCHR6_MHC_QBL |
| HSCHR6_MHC_SSSTO | HSCHR6_MHC_SSSTO |
| HSCHR7_RANDOM_CTG1 | HSCHR7_RANDOM_CTG1 |
| HSCHR8_RANDOM_CTG1 | HSCHR8_RANDOM_CTG1 |
| HSCHR8_RANDOM_CTG4 | HSCHR8_RANDOM_CTG4 |
| HSCHR9_RANDOM_CTG2 | HSCHR9_RANDOM_CTG2 |
| HSCHR9_RANDOM_CTG4 | HSCHR9_RANDOM_CTG4 |
| HSCHR9_RANDOM_CTG5 | HSCHR9_RANDOM_CTG5 |
| HSCHRUN_RANDOM_CTG1 | HSCHRUN_RANDOM_CTG1 |

Continued on next page

Table A.8.1 – continued from previous page

| Key | Chromosome Name |
|----------------------|----------------------|
| HSCHRUN_RANDOM_CTG10 | HSCHRUN_RANDOM_CTG10 |
| HSCHRUN_RANDOM_CTG11 | HSCHRUN_RANDOM_CTG11 |
| HSCHRUN_RANDOM_CTG13 | HSCHRUN_RANDOM_CTG13 |
| HSCHRUN_RANDOM_CTG14 | HSCHRUN_RANDOM_CTG14 |
| HSCHRUN_RANDOM_CTG15 | HSCHRUN_RANDOM_CTG15 |
| HSCHRUN_RANDOM_CTG16 | HSCHRUN_RANDOM_CTG16 |
| HSCHRUN_RANDOM_CTG17 | HSCHRUN_RANDOM_CTG17 |
| HSCHRUN_RANDOM_CTG2 | HSCHRUN_RANDOM_CTG2 |
| HSCHRUN_RANDOM_CTG20 | HSCHRUN_RANDOM_CTG20 |
| HSCHRUN_RANDOM_CTG21 | HSCHRUN_RANDOM_CTG21 |
| HSCHRUN_RANDOM_CTG22 | HSCHRUN_RANDOM_CTG22 |
| HSCHRUN_RANDOM_CTG23 | HSCHRUN_RANDOM_CTG23 |
| HSCHRUN_RANDOM_CTG26 | HSCHRUN_RANDOM_CTG26 |
| HSCHRUN_RANDOM_CTG29 | HSCHRUN_RANDOM_CTG29 |
| HSCHRUN_RANDOM_CTG3 | HSCHRUN_RANDOM_CTG3 |
| HSCHRUN_RANDOM_CTG30 | HSCHRUN_RANDOM_CTG30 |
| HSCHRUN_RANDOM_CTG31 | HSCHRUN_RANDOM_CTG31 |
| HSCHRUN_RANDOM_CTG32 | HSCHRUN_RANDOM_CTG32 |
| HSCHRUN_RANDOM_CTG33 | HSCHRUN_RANDOM_CTG33 |
| HSCHRUN_RANDOM_CTG34 | HSCHRUN_RANDOM_CTG34 |
| HSCHRUN_RANDOM_CTG35 | HSCHRUN_RANDOM_CTG35 |
| HSCHRUN_RANDOM_CTG36 | HSCHRUN_RANDOM_CTG36 |
| HSCHRUN_RANDOM_CTG4 | HSCHRUN_RANDOM_CTG4 |
| HSCHRUN_RANDOM_CTG40 | HSCHRUN_RANDOM_CTG40 |
| HSCHRUN_RANDOM_CTG5 | HSCHRUN_RANDOM_CTG5 |
| HSCHRUN_RANDOM_CTG6 | HSCHRUN_RANDOM_CTG6 |
| HSCHRUN_RANDOM_CTG9 | HSCHRUN_RANDOM_CTG9 |
| HSCHR4_1 | HSCHR4_1 |

A.9 Value Codes for Reference Genome Assembly Version

This controlled vocabulary has 8 terms

Table A.9.1: Value Codes for Reference Genome Assembly Version

| Key | Reference Genome Assembly Version |
|-----|-----------------------------------|
| 1 | GRCh37 |
| 2 | NCBI36 |
| 3 | GRCh37.p1 |
| 4 | GRCh37.p2 |
| 5 | GRCh37.p3 |
| 6 | GRCh37.p4 |
| 7 | GRCh37.p5 |
| 8 | GRCh37.p10 |

A.10 Value Codes for Raw Data Repository

This controlled vocabulary has 5 terms

Table A.10.1: Value Codes for Raw Data Repository

| Key | Raw Data Repository |
|-----|---------------------|
| 1 | EGA |
| 2 | dbSNP |
| 3 | TCGA |
| 4 | CGHub |
| 5 | GEO |

A.11 CV Table wgbsFeatures

This controlled vocabulary has 17 terms

Table A.11.1: CV Table wgbsFeatures

| Key | Description |
|---|--|
| EXTRACTION_PROTOCOL_TYPE_OF SONICATOR | The type of sonicator used for extraction. |
| EXTRACTION_PROTOCOL_SONICATION_CYCLES | The number of sonication cycles used for extraction. |
| DNA_PREPARATION_INITIAL_DNA_QNTY | The initial DNA quantity used in preparation. |
| DNA_PREPARATION_FRAGMENT_SIZE_RANGE | The DNA fragment size range used in preparation. |
| DNA_PREPARATION_ADAPTER_SEQUENCE | The sequence of the adaptor used in preparation. |
| DNA_PREPARATION_ADAPTER_LIGATION_PROTOCOL | The protocol used for adaptor ligation. |
| DNA_PREPARATION_POST-LIGATION_FRAGMENT_SIZE_SELECTION | The fragment size selection after adaptor ligation. |
| BISULFITE_CONVERSION_PROTOCOL | The bisulfite conversion protocol. |
| BISULFITE_CONVERSION_PERCENT | The bisulfite conversion percent and how it was determined. |
| LIBRARY_GENERATION_PCR_TEMPLATE_CONC | The PCR template concentration for library generation. |
| LIBRARY_GENERATION_PCR_POLYMERASE_TYPE | The PCR polymerase used for library generation |
| LIBRARY_GENERATION_PCR_THERMOCYCLING_PROGRAM | The thermocycling program used for library generation. |
| LIBRARY_GENERATION_PCR_NUMBER_CYCLES | The number of PCR cycles used for library generation. |
| LIBRARY_GENERATION_PCR_F_PRIMER_SEQUENCE | The sequence of the PCR forward primer used for library generation. |
| LIBRARY_GENERATION_PCR_R_PRIMER_SEQUENCE | The sequence of the PCR reverse primer used for library generation. |
| LIBRARY_GENERATION_PCR_PRIMER_CONC | The concentration of the PCR primers used for library generation. |
| LIBRARY_GENERATION_PCR_PRODUCT_ISOLATION_PROTOCOL | The protocol for isolating PCR products used for library generation. |

A.12 CV Table medipFeatures

This controlled vocabulary has 11 terms

Table A.12.1: CV Table medipFeatures

| Key | Description |
|---------------------------------------|--|
| EXTRACTION_PROTOCOL_TYPE_OF SONICATOR | The type of sonicator used for extraction. |
| <i>Continued on next page</i> | |

Table A.12.1 – continued from previous page

| Key | Description |
|---------------------------------------|---|
| EXTRACTION_PROTOCOL SONICATION CYCLES | The number of sonication cycles used for extraction. |
| MeDIP_PROTOCOL | The MeDIP protocol used. |
| MeDIP_PROTOCOL_DNA_AMOUNT | The amount of DNA used in the MeDIP protocol. |
| MeDIP_PROTOCOL_BEAD_TYPE | The type of bead used in the MeDIP protocol. |
| MeDIP_PROTOCOL_BEAD_AMOUNT | The amount of beads used in the MeDIP protocol. |
| MeDIP_PROTOCOL_ANTIBODY_AMOUNT | The amount of antibody used in the MeDIP protocol. |
| MeDIP_ANTIBODY | The specific antibody used in the MeDIP protocol. |
| MeDIP_ANTIBODY_PROVIDER | The name of the company, laboratory or person that provided the antibody. |
| MeDIP_ANTIBODY_CATALOG | The catalog from which the antibody was purchased. |
| MeDIP_ANTIBODY_LOT | The lot identifier of the antibody. |

A.13 CV Table mreFeatures

This controlled vocabulary has 4 terms

Table A.13.1: CV Table mreFeatures

| Key | Description |
|---------------------------------|---|
| MRE_PROTOCOL | The MRE protocol. |
| MRE_PROTOCOL_CHROMATIN_AMOUNT | The amount of chromatin used in the MRE protocol. |
| MRE_PROTOCOL_RESTRICTION_ENZYME | The restriction enzyme(s) used in the MRE protocol. |
| MRE_PROTOCOL_SIZE_FRACTION | The size of the fragments selected in the MRE protocol. |

A.14 CV Table csiFeatures

This controlled vocabulary has 4 terms

Table A.14.1: CV Table csiFeatures

| Key | Description |
|---------------------------------------|--|
| EXTRACTION_PROTOCOL_TYPE_OF SONICATOR | The type of sonicator used for extraction. |
| EXTRACTION_PROTOCOL SONICATION CYCLES | The number of sonication cycles used for extraction. |
| CHIP_PROTOCOL | Input |
| CHIP_PROTOCOL_CHROMATIN_AMOUNT | The amount of chromatin used in the ChIP protocol. |

A.15 CV Table csFeatures

This controlled vocabulary has 13 terms

Table A.15.1: CV Table csFeatures

| Key | Description |
|---------------------------------------|--|
| EXTRACTION_PROTOCOL_TYPE_OF SONICATOR | The type of sonicator used for extraction. |
| EXTRACTION_PROTOCOL SONICATION CYCLES | The number of sonication cycles used for extraction. |

Continued on next page

Table A.15.1 – continued from previous page

| Key | Description |
|--|---|
| CHIP_PROTOCOL | The ChIP protocol used. |
| CHIP_PROTOCOL_CHROMATIN_AMOUNT | The amount of chromatin used in the ChIP protocol. |
| CHIP_PROTOCOL_BEAD_TYPE | The type of bead used in the ChIP protocol. |
| CHIP_PROTOCOL_BEAD_AMOUNT | The amount of beads used in the ChIP protocol. |
| CHIP_PROTOCOL_ANTIBODY_AMOUNT | The amount of antibody used in the ChIP protocol. |
| CHIP_ANTIBODY | The specific antibody used in the ChIP protocol. |
| CHIP_ANTIBODY_PROVIDER | The name of the company, laboratory or person that provided the antibody. |
| CHIP_ANTIBODY_CATALOG | The catalog from which the antibody was purchased. |
| CHIP_ANTIBODY_LOT | The lot identifier of the antibody. |
| CHIP_PROTOCOL_CROSSLINK_TIME | The timespan in which the chromatin is crosslinked |
| LIBRARY_GENERATION_FRAGMENT_SIZE_RANGE | The fragment size range of the preparation. |

A.16 CV Table mRNAFeatures

This controlled vocabulary has 30 terms

Table A.16.1: CV Table mRNAFeatures

| Key | Description |
|--|---|
| EXTRACTION_PROTOCOL_MRNA_ENRICHMENT | The mRNA enrichment method used in the extraction protocol. |
| EXTRACTION_PROTOCOL_FRAGMENTATION | The fragmentation method used in the extraction protocol. |
| MRNA_PREPARATION_INITIAL_MRNA_QNTY | The initial mRNA quantity used in preparation. |
| MRNA_PREPARATION_FRAGMENT_SIZE_RANGE | The mRNA fragment size range of the preparation. |
| RNA_PREPARATION_5'_RNA_ADAPTER_SEQUENCE | The sequence of the 5' RNA adapter used in preparation. |
| RNA_PREPARATION_3'_RNA_ADAPTER_SEQUENCE | The sequence of the 3' RNA adapter used in preparation. |
| RNA_PREPARATION_REVERSE_TRANSSCRIPTION_PRIMER_SEQUENCE | The sequence of the primer for reverse transcription used in preparation. |
| RNA_PREPARATION_5'_DEPHOSPHORYLATION | The protocol for 5' dephosphorylation used in preparation. |
| RNA_PREPARATION_5'_PHOSPHORYLATION | The protocol for 5' phosphorylation used in preparation. |
| RNA_PREPARATION_3'_RNA_ADAPTER_LIGATION_PROTOCOL | The protocol for 3' adapter ligation used in preparation. |
| RNA_PREPARATION_5'_RNA_ADAPTER_LIGATION_PROTOCOL | The protocol for 5' adapter ligation used in preparation. |
| RNA_PREPARATION_REVERSE_TRANSSCRIPTION_PROTOCOL | The protocol for reverse transcription used in preparation. |
| LIBRARY_GENERATION_PCR_TEMPLATE_CONC | The PCR template concentration for library generation. |
| LIBRARY_GENERATION_PCR_POLYMERASE_TYPE | The PCR polymerase used for library generation |
| LIBRARY_GENERATION_PCR_THERMOCYCLING_PROGRAM | The thermocycling program used for library generation. |
| LIBRARY_GENERATION_PCR_NUMBER_CYCLES | The number of PCR cycles used for library generation. |
| LIBRARY_GENERATION_PCR_F_PRIMER_SEQUENCE | The sequence of the PCR forward primer used for library generation. |

Continued on next page

Table A.16.1 – continued from previous page

| Key | Description |
|---|--|
| LIBRARY_GENERATION_PCR_R_PRIMER_SEQUENCE | The sequence of the PCR reverse primer used for library generation. |
| LIBRARY_GENERATION_PCR_PRIMER_CONC | The concentration of the PCR primers used for library generation. |
| LIBRARY_GENERATION_PCR_PRODUCT_ISOLATION_PROTOCOL | The protocol for isolating PCR products used for library generation. |
| TEMPLATE_TYPE | mRNA or cDNA - The type of template. |
| AMPLIFIED | True or False - Is the sample amplified? |
| PREPARATION_INITIAL_MRNA_QNTY | The initial mRNA quantity used in preparation. |
| PREPARATION_REVERSE_TRANSSCRIPTION_PROTOCOL | The protocol for reverse transcription used in preparation. |
| PREPARATION_PCR_NUMBER_CYCLES | The number of PCR cycles used to amplify. |
| LIBRARY_GENERATION_PROTOCOL | The protocol used to generate the library. |
| LIBRARY_GENERATION_FRAGMENTATION | The fragmentation method used in the library protocol. |
| LIBRARY_GENERATION_FRAGMENT_SIZE_RANGE | The fragment size range of the preparation. |
| LIBRARY_GENERATION_3'_ADAPTER_SEQUENCE | The sequence of the 3' adapter used for library generation. |
| LIBRARY_GENERATION_5'_ADAPTER_SEQUENCE | The sequence of the 5' adapter used for library generation. |

A.17 CV Table smrnaFeatures

This controlled vocabulary has 16 terms

Table A.17.1: CV Table smrnaFeatures

| Key | Description |
|--|---|
| EXTRACTION_PROTOCOL_SMRNA_ENRICHMENT | The smRNA enrichment method used in the extraction protocol. |
| SMRNA_PREPARATION_INITIAL_SMRNA_QNTY | The initial smRNA quantity used in preparation. |
| RNA_PREPARATION_5'_RNA_ADAPTER_SEQUENCE | The sequence of the 5' RNA adapter used in preparation. |
| RNA_PREPARATION_3'_RNA_ADAPTER_SEQUENCE | The sequence of the 3' RNA adapter used in preparation. |
| RNA_PREPARATION_REVERSE_TRANSDUCTION_PRIMER_SEQUENCE | The sequence of the primer for reverse transcription used in preparation. |
| RNA_PREPARATION_3'_RNA_ADAPTER_LIGATION_PROTOCOL | The protocol for 3' adapter ligation used in preparation. |
| RNA_PREPARATION_5'_RNA_ADAPTER_LIGATION_PROTOCOL | The protocol for 5' adapter ligation used in preparation. |
| RNA_PREPARATION_REVERSE_TRANSDUCTION_PROTOCOL | The protocol for reverse transcription used in preparation. |
| LIBRARY_GENERATION_PCR_TEMPLATE_CONC | The PCR template concentration for library generation. |
| LIBRARY_GENERATION_PCR_POLYMERASE_TYPE | The PCR polymerase used for library generation |
| LIBRARY_GENERATION_PCR_THERMOCYCLING_PROGRAM | The thermocycling program used for library generation. |
| LIBRARY_GENERATION_PCR_NUMBER_CYCLES | The number of PCR cycles used for library generation. |
| LIBRARY_GENERATION_PCR_F_PRIMER_SEQUENCE | The sequence of the PCR forward primer used for library generation. |

Continued on next page

Table A.17.1 – continued from previous page

| Key | Description |
|---|--|
| LIBRARY_GENERATION_PCR_R_PRIMER_SEQUENCE | The sequence of the PCR reverse primer used for library generation. |
| LIBRARY_GENERATION_PCR_PRIMER_CONC | The concentration of the PCR primers used for library generation. |
| LIBRARY_GENERATION_PCR_PRODUCT_ISOLATION_PROTOCOL | The protocol for isolating PCR products used for library generation. |

A.18 CV Table SRALibraryStrategy

This controlled vocabulary has 21 terms

Sequencing technique intended for this library (borrowed from SRA XML 1.2).

Table A.18.1: CV Table SRALibraryStrategy

| Key | Description |
|------------------------|--|
| WGS | Random sequencing of the whole genome. |
| WXS | Random sequencing of exonic regions selected from the genome. |
| RNA-Seq | Random sequencing of whole transcriptome. |
| WCS | Random sequencing of a whole chromosome or other replicon isolated from a genome. |
| CLONE | Genomic clone based (hierarchical) sequencing. |
| POOLCLONE | Shotgun of pooled clones (usually BACs and Fosmids). |
| AMPLICON | Sequencing of overlapping or distinct PCR or RT-PCR products. |
| BARCODE | DEPRECATED. Sequencing of overlapping or distinct products that have been tagged with a short identifying sequence (barcode). Each sequence read can therefore be assigned to an individual product. |
| CLONEEND | Clone end (5', 3', or both) sequencing. |
| FINISHING | Sequencing intended to finish (close) gaps in existing coverage. |
| ChIP-Seq | Direct sequencing of chromatin immunoprecipitates. |
| MNase-Seq | Direct sequencing following MNase digestion. |
| DNase-Hypersensitivity | Sequencing of hypersensitive sites, or segments of open chromatin that are more readily cleaved by DNasel. |
| Bisulfite-Seq | Sequencing following treatment of DNA with bisulfite to convert cytosine residues to uracil depending on methylation status. |
| EST | Single pass sequencing of cDNA templates |
| FL-cDNA | Full-length sequencing of cDNA templates |
| CTS | Concatenated Tag Sequencing |
| MRE-Seq | Methylation-Sensitive Restriction Enzyme Sequencing strategy. |
| MeDIP-Seq | Methylated DNA Immunoprecipitation Sequencing strategy. |
| MBD-Seq | Direct sequencing of methylated fractions sequencing strategy. |
| OTHER | Library strategy not listed. |