

Metadata Specifications:

Differentiated Cells

Cells derived from another cell type of higher potency (source), such as pluripotent stem cells differentiating into multipotent stem cells or unipotent cells.

Importance	1: Required, 2: Required if available, 3: Optional
Common Fields	Fields that are common across all LINCS metadata standards
Custom Fields	Fields that are unique to a single LINCS metadata standard or common across only a subset of them

Common Fields

LINCS Field Name	Related to	Description	Comments	Importance
DC_LINCS_ID	Canonical	Unique LINCS internal identifier	LINCS internal ID; This is a batch independent ID; Canonical cell ID	1
DC_Name	Canonical	The primary name for the cell as chosen by LINCS	Should be descriptive and correspond to existing cell names as much as possible; Batch independent name	1
DC_Alternative_Name	Canonical	Other relevant names	Synonymous or alternative names, but only significantly different names should be captured	2
DC_Alternative_ID	Canonical	Other relevant IDs for cells	CLO or other common IDs referring to the same cell	2
DC_Center_Canonical_ID	Canonical	LINCS DSGC-specific canonical ID. This will be assigned by a given LINCS DSGC according to its primary cell registration scheme.	-	1
DC_Relevant_Citations	Canonical	List of references (with PMIDs) of relevance to cell derivation, etc.	-	2
DC_Center_Name	Batch	LINCS center using the cell	-	1
DC_Center_Batch_ID	Batch	LINCS center-specific cell ID; Batch specific ID	-	1
DC_Provider_Name	Batch	Name of vendor or lab (provider) that supplied the cell	ATCC or other vendor(s) or provider	1
DC_Provider_Catalog_ID	Batch	ID or catalogue number or name assigned to the cell by the vendor or provider	ATCC or other cell provider's IDs	1
DC_Provider_Batch_ID	Batch	Vendor / Provider Batch ID number; Batch or lot number assigned to the cell by the vendor or provider	Provided by the cell provider	1
DC_Comments	Batch	DSGC Comments regarding reagent	-	3

Custom Fields

DC_Precursor_Cell_Name	Canonical	The name of the iPSCs that were differentiated	-	1
DC_Precursor_Cell_LINCS_ID	Canonical	The LINCS ID of the parent iPSC from which it was differentiated	-	1
DC_Precursor_Cell_Center_Batch_ID	Canonical	If this primary cell is derived from another registered cell, this field should specify the Center LINCS Batch ID of the specific batch from which it was derived.	-	2
DC_Differentiation_Protocol	Canonical	The protocol that was used to differentiate the cells	-	1
DC_Cell_Type	Canonical	Cell type of the differentiated cell. A cell type is a distinct morphological or functional form of cell. Examples are epithelial, glial etc.	Controlled terminology from CL	1
DC_Cell_Type_Detail	Canonical	Additional description of cell type (histology)	-	2
DC_Known_Mutations	Canonical	Mutations inherent in cell, captured explicitly; e.g. if reference is not available	Need some ontology to describe gene / protein and mutation; At this point we suggest a concatenation of UniProt/Gene symbol and code of mutation	2
DC_Mutation_Citations	Canonical	Mutations inherent in the cells; From a reference	Known mutation in cells from a reference; Need to include the reference source and the reference to the specific cell	2
DC_Molecular_Features	Canonical	Relevant molecular and morphological features of the differentiated cell	-	2
DC_Recommended_Culture_Conditions	Canonical	A description of the standard tissue culture conditions (media, supplements, culture dish treatment) used to maintain the cell. Description of culture dish treatment conditions would include information about coating of culture dish with fibronectin, collagen, etc, prior to cell plating. If special culture vessels are required to grow the cells, these should also be mentioned and details provided.	Recommended standard culturing conditions go here. Not a required field; The actual culture conditions are captured as experimental metadata	2
DC_Related_Projects	Canonical	Other projects in which the cell has been studied/used; A controlled vocabulary describing other large-scale projects in which the cell has been used (e.g. ENCODE, TCGA, ICBP, epigenomics, etc.)	Needs defined project codes	3
DC_Cell_Markers	Canonical	A controlled vocabulary describing the markers used to isolate / identify the cell type	Controlled terms of markers; At this point no reference	1
DC_Genetic_Modification	Canonical	Stable transfection, viral transduction or any other genetic modifications (de novo mutations, translocations) that were acquired. If yes, the modifications (e.g. expressing GFP-tagged protein) should be described and appropriate references provided.	MIACA is minimal information that may be a guidance	1
DC_Production_Details	Canonical	This field specifies the procedure(s) by which the cells were derived from the parent/precursor cell, including genetic transformations and phenotypic selections. Citations / source information for constructs and citations for procedures should be included here when appropriate.	The protocol that was used to differentiate the cells	2
DC_Center_Specific_Code	Batch	LINCS center-specific coded information that can include in its format information regarding the parent / protocol used / date	-	3
DC_Quality_Verification	Batch	Information pertaining to experimental verification of the cell identity; Batch-specific ID; STR profiling	Acceptable protocols for verification will be determined by LINCS participants and a controlled vocabulary will be developed.	2
DC_Transient_Modification	Batch	Transient transfection or viral transduction	Need to capture transfection agent	1
DC_Culture_Conditions	Batch	A description of the culture conditions that were used and are suitable for this type of cell	-	1
DC_Passage_Number	Batch	The number of times (if any) that the cells have been passaged (re-plated and allowed to grow back to confluency or to some maximum density if using suspension cultures)	-	2
DC_Days_Post_Differentiation	Batch	The number of days after the initiation of differentiation	-	1
DC_Source_Information	Batch	This is a free-text field that provides detailed source information for this particular batch, which may include information on from whom and when the provider obtained the cells and for what purpose the cells were obtained by the end user.	-	2
DC_Date_Received	Batch	This field specifies when this batch was obtained from the provider. Because YEAR-MO-DY is not always known, this field may only contain partial date information (e.g. YEAR-MO, YEAR only).	-	2