

Metadata Specifications:

iPSCs

Pluripotent stem cells derived by reprogramming cells of lower potency to a pluripotent state. iPSC lines are ideally derived from a single colony of de-differentiated cells to maintain genetic heterogeneity, and can be maintained in culture as pluripotent cells indefinitely.

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

Common Fields

LINCSC Field Name	Related to	Description	Comments	Importance
IP_LINCSC_ID	Canonical	Unique LINCSC internal identifier	LINCSC internal ID. This is a batch independent ID. Canonical iPSC ID	1
IP_Name	Canonical	The name of the iPSCs	-	1
IP_Alternative_Name	Canonical	Other relevant names	Synonymous or alternative names; but only significant different names should be captured	2
IP_Alternative_ID	Canonical	Other relevant IDs for cells	CLO or other synonymous IDs	2
IP_Center_Canonical_ID	Canonical	LINCSC DSGC-specific canonical ID. This will be assigned by a given LINCSC DSGC according to its cell registration scheme	-	1
IP_Relevant_Citations	Canonical	List of references (with PMIDs) of relevance to cell isolation, etc.	-	2
IP_Center_Name	Batch	LINCSC center using the cell	-	1
IP_Center_Batch_ID	Batch	LINCSC Center-specific cell ID; Batch specific ID	-	1
IP_Provider_Name	Batch	Name of vendor or lab (provider) that supplied the iPSC	-	1
IP_Provider_Catalog_ID	Batch	ID or catalogue number assigned to the iPSC by the vendor or provider	-	1
IP_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
IP_Comments	Batch	DSGC Comments regarding reagent	-	3

Custom Fields

IP_Known_Mutations	Canonical	Mutations inherent in cell, captured explicitly; e.g. if reference is not available	Needs some ontology to describe gene / protein and mutation; At this point we suggest a concatenation of UniProt / Gene symbol and code of mutation	2
IP_Mutation_Citations	Canonical	Mutations inherent in the cells; from a reference	Known mutation in cells from a reference; Needs to include the reference source and the reference to the specific cell	2
IP_Passaging_Method	Canonical	The passaging method that was used for the iPSCs	-	2
IP_Passage_Last_Karyotyping	Canonical	The passage number since the last karyotyping	-	1
IP_Recommended_Culture_Conditions	Canonical	The culture conditions that are recommended by the vendor when handling the iPSCs	-	2
IP_Molecular_Features	Canonical	Relevant molecular and morphological features of the iPSCs. (e.g. ER Status)	-	3
IP_Related_Projects	Canonical	Other projects in which the iPSCs have been studied / used; A controlled vocabulary describing other large scale projects in which the cells have been used (e.g. ENCODE, TCGA, ICBP, Epigenomics, etc.)	Need some defined project code	3
IP_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
IP_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.	MACA is minimal information that may be a guidance	1
IP_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. If this cell line is derived from another registered cell line, this field also should specify the Center LINCSC batch ID of the specific batch from which it was derived.	-	2
IP_Precursor_Cell_Name	Canonical	The name of the Primary Cell / Cell Line of origin which was dedifferentiated	-	1
IP_Precursor_Cell_Center_Batch_ID	Canonical	The Center Batch ID of the primary cell / cell Line of origin which was dedifferentiated	-	2
IP_Precursor_Cell_LINCSC_ID	Canonical	LINCSC ID of the primary cell / cell line from which the iPSC was derived / dedifferentiated	-	1
IP_Culture_Conditions	Batch	A description of the culture conditions that were used to maintain the cells and are suitable for this type of cell	-	1
IP_Passage_Number	Batch	The number of times that the iPSCs had been passaged	-	2
IP_Center_Specific_Code	Batch	LINCSC center-specific coded information that can include in its format information regarding the parent / protocol used / date	e.g. CS00ICTR-n2_iPS	3
IP_Quality_Verification	Batch	Information pertaining to experimental verification of the primary cell identity; Batch-specific ID; STR profile	Acceptable protocols for verification will be determined by LINCSC participants and a controlled vocabulary will be developed. Comment: We should at least make an effort to ensure cells within LINCSC are the same either by STR / SNP profiling or by actually exchanging vials previously matched to repository	2
IP_Transient_Modification	Batch	Transient transfection or viral transduction	Need to capture transfection agent	1
IP_Center_Specific_Code	Batch	LINCSC center-specific coded information that can include in its format information regarding the parent / protocol used / date	-	3
IP_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
IP_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