scanpy.pp.downsample_counts

scanpy.pp.downsample_counts(*adata*, *counts_per_cell=None*, *total_counts=None*, ***, *random_state=0*, *replace=False*, *copy=False*)

Downsample counts from count matrix.

If `counts_per_cell` is specified, each cell will downsampled. If `total_counts` is specified, expression matrix will be downsampled to contain at most `total_counts`.

Parameters:

adata : `AnnData`

Annotated data matrix.

counts_per_cell : `Union` [`int` , `Collection` [`int`], `None`] (default: `None`)

Target total counts per cell. If a cell has more than ‘counts_per_cell’, it will be downsampled to this number. Resulting counts can be specified on a per cell basis by passing an array.Should be an integer or integer ndarray with same length as number of obs.

total_counts : `Optional` [`int`] (default: `None`)

Target total counts. If the count matrix has more than `total_counts` it will be downsampled to have this number.

random_state : `Union` [`None` , `int` , `RandomState`] (default: `0`)

Random seed for subsampling.

replace : `bool` (default: `False`)

Whether to sample the counts with replacement.

copy : `bool` (default: `False`)

Determines whether a copy of `adata` is returned.

Return type:

`Optional` [`AnnData`]

Returns:

: Depending on `copy` returns or updates an `adata` with downsampled `.X` .