Package 'SpatialDatasets'

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Version 1.12.0

Title Collection of spatial omics datasets

Description This is a collection of publically available spatial omics datasets. Where possible we have curated these datasets as either SpatialExperiments, MoleculeExperiments or CytoImageLists and included annotations of the sample characteristics.

URL https://github.com/SydneyBioX/SpatialDatasets

BugReports https://github.com/SydneyBioX/SpatialDatasets/issues

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Encoding UTF-8

biocViews ExperimentData, ExperimentHub, ReproducibleResearch, SingleCellData, SpatialData, Homo_sapiens_Data, Mus_musculus_Data

Depends ExperimentHub, SpatialExperiment,

Imports utils

VignetteBuilder knitr

Suggests BiocStyle, knitr, rmarkdown, cytomapper

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`SpatialDatasets` *A collection of publically available spatial omics datasets.*

Description

This is a collection of publically available spatial omics datasets. Where possible we have curated these datasets as either SpatialExperiments, MoleculeExperiments or CytoImageLists and included annotations of the sample characteristics.

Details

The `SpatialDatasets` package contains a collection of spatially-resolved omics datasets for use in examples, demonstrations, and tutorials.

The datasets are from several different platforms including IMC, MIBI-TOF, CODEX, Xenium, CosMx and MERFISH. They have been sourced from various publicly available sources.

Additional examples and documentation are provided in the package vignette.

Datasets

The `SpatialDatasets` package contains the following datasets:

- spe_Keren_2018 (MIBI-TOF): A study on triple negative breast cancer containing 40 samples measured using MIBI-TOF published by [Keren et al. (2018)](https://doi.org/10.1016/j.cell.2018.08.039).
- Ferguson_Images (IMC): A study on head and neck cutaneous squamous cell carcinoma containing 44 samples measured using IMC published by [Ferguson et al. (2022)](https://doi.org/10.1158/1078-0432.CCR-22-1332).
- spe_Ferguson_2022 (IMC): A study on head and neck cutaneous squamous cell carcinoma containing 44 samples measured using IMC published by [Ferguson et al. (2022)](https://doi.org/10.1158/1078-0432.CCR-22-1332).
- spe_Schurch_2020 (CODEX): A study on advanced colorectal cancer containing 140 samples measured using CODEX published by [Schurch et al. (2020)](https://doi.org/10.1016/j.cell.2020.07.005).
- spe_Ali_2020 (IMC): A study on breast cancer containing 483 samples measured using IMC published by [Ali et al. (2020)](https://doi.org/10.1038/s43018-020-0026-6).
- spe_Amancherla_2025 (Xenium): A study on heart transplant rejection containing 62 (49 adult and 13 pediatric) samples measured with Xenium published by [Amancherla et al. (2025)](https://doi.org/10.1101/2025.02.28.640852).
- spe_Vannan_2025 (Xenium): A study on pulmonary fibrosis containing 35 lung samples measured with Xenium published by [Vannan et al. (2025)](https://doi.org/10.1038/s41588-025-02080-x).

The datasets will be a SpatialExperiment or MoleculeExperiment.

load using dataset name spe <- spe_Keren_2018() spe

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