

Package ‘SpatialDatasets’

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Version 1.9.0

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

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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_Amancerla_2025` (Xenium): A study on heart transplant rejection containing 62 (49 adult and 13 pediatric) samples measured with Xenium published by [Amancerla 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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