

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_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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