

Resource Summary Report

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CellRank

RRID:SCR_022827

Type: Tool

Proper Citation

CellRank (RRID:SCR_022827)

Resource Information

URL: <https://cellrank.readthedocs.io/en/stable/>

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Description: Software package for directed single cell fate mapping in diverse scenarios, including regeneration, reprogramming and disease. Automatically detects initial, intermediate and terminal populations, predicts fate potentials and visualizes continuous gene expression trends along individual lineages. Applied to lineage traced cellular reprogramming data, predicted fate probabilities correctly recover reprogramming outcomes.

Resource Type: software toolkit, software resource

Defining Citation: [PMID:35027767](https://pubmed.ncbi.nlm.nih.gov/35027767/)

Keywords: directed single cell fate mapping, detects initial, intermediate and terminal populations, gene expression trends, traced cellular reprogramming data

Funding: NCI P30 CA08748;
BMBF ;
Helmholtz Association Initiative ;
Joachim Herz Stiftung ;
Bayer Foundation

Availability: Free, Available for download, Freely available

Resource Name: CellRank

Resource ID: SCR_022827

Record Creation Time: 20221006T194910+0000

Record Last Update: 20260810T040805+0000

Ratings and Alerts

No rating or validation information has been found for CellRank.

No alerts have been found for CellRank.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 121 mentions in open access literature.

Listed below are recent publications. The full list is available at [SPARC SAWG](#) .

Wang C, et al. (2026) Single-cell and spatial transcriptomics in *Phragmites australis* reveal the association of B chromosomes with plant invasiveness. *Genome biology*, 27(1).

Nitahara K, et al. (2026) Defective ventral neurogenesis due to midfetal *Chd8* mutation drives autistic-like behavior in mice. *Nature communications*, 17(1).

Davidson S, et al. (2026) The embryonic origins of site-specific arthritis. *Nature immunology*, 27(7), 1390.

Chiello JL, et al. (2026) BiTE-secreting T cells rationally combine with PD-1 blockade and vaccine boosting to reshape antitumor immunity in ovarian cancer. *Molecular therapy : the journal of the American Society of Gene Therapy*, 34(1), 455.

Le TT, et al. (2026) Deep spatial transcriptomic profiling of ovarian clear cell carcinoma in the real-world setting. *Journal of ovarian research*, 19(1).

Yang X, et al. (2026) Integrated multi-omic atlas reveals the hierarchy of spatiotemporal regulatory networks of mouse gastrulation. *Nature communications*, 17(1), 1572.

Tang D, et al. (2026) Poly-l-lactic acid electrospun membrane with specific morphology promotes bone regeneration through macrophage reprogramming. *Journal of nanobiotechnology*, 24(1).

Hao Q, et al. (2026) A pan-cancer single cell landscape reveals heterogeneity and functional diversity of double-negative T cells. *Molecular cancer*, 25(1), 24.

Huizing GJ, et al. (2026) STORIES: learning cell fate landscapes from spatial transcriptomics using optimal transport. *Nature methods*, 23(3), 522.

Feng Z, et al. (2026) Essential role of NONO-HOXA1-Wnt axis in cardiomyocyte differentiation. *Nature communications*, 17(1).

Khoury-Farah N, et al. (2026) Gene expression dynamics of human and mouse craniofacial development at the single-cell level. *Nature communications*, 17(1).

Hoang P, et al. (2026) Size-Modulated Mesoderm-Endoderm Divergence and Myocardial Cavitation in Micropatterned Cardioids. *Advanced science* (Weinheim, Baden-Wurttemberg, Germany), 13(30), e15661.

Fan X, et al. (2026) A Perturb-seq screen guided by species divergence uncovers pathways for collateral artery formation. *bioRxiv : the preprint server for biology*.

Wang C, et al. (2026) Single-cell spatiotemporal dissection of the human maternal-fetal interface. *Nature*, 653(8113), 167.

You Y, et al. (2026) Dynamic single-cell transcriptomics reveals Isamp-guided neural network formation in male *S. japonicum* driving female reproduction. *Nature communications*, 17(1), 1602.

Deng B, et al. (2026) Single-Cell Characterization of Terminal States and State-Specific Transcriptional Regulatory Networks in Hepatocellular Carcinoma. *Journal of cellular and molecular medicine*, 30(10), e71214.

Yu P, et al. (2026) Mapping metabolic reprogramming dynamics across pancreatic neuroendocrine tumor cell differentiation at single-cell transcriptomic resolution. *Frontiers in genetics*, 17, 1826137.

Zhang L, et al. (2026) Retinoic Acid Reprograms Mast Cells Toward a Proinflammatory State to Enhance Antitumor Immunity. *Advanced science* (Weinheim, Baden-Wurttemberg, Germany), 13(6), e09340.

Dupas SJ, et al. (2026) Splice isoform-perturbation coupled to single cell transcriptome profiling reveals functions of microexons in neurogenesis and autism-linked pathways. *Nature communications*, 17(1), 1217.

Tanoue T, et al. (2026) Microbiota-mediated induction of beige adipocytes in response to dietary cues. *Nature*, 653(8114), 499.