

Resource Summary Report

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Monocle3

RRID:SCR_018685

Type: Tool

Proper Citation

Monocle3 (RRID:SCR_018685)

Resource Information

URL: <https://cole-trapnell-lab.github.io/monocle3/>

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Description: Software analysis toolkit for single cell RNA-seq. Used for single cell RNA-Seq experiments. Unsupervised algorithm that increases temporal resolution of transcriptome dynamics using single-cell RNA-Seq data collected at multiple time points.

Synonyms: Monocle, Monocle 3

Resource Type: data analysis software, data processing software, software application, software resource, software toolkit

Defining Citation: [PMID:24658644](#)

Keywords: Data analysis, singel cell RNAseq data, single cell RNAseq experiment, transcriptome dynamics

Funding: NHGRI P50 HG006193;
NIGMS P01 GM099117;
NIH Office of the Director DP2 OD008514;
NIH Office of the Director DP2 OD00667;
Single Cell Genomics initiative

Availability: Free, Available for download, Freely available

Resource Name: Monocle3

Resource ID: SCR_018685

Alternate URLs: <https://github.com/cole-trapnell-lab/monocle3>

License: MIT License

Record Creation Time: 20220129T080341+0000

Record Last Update: 20260829T182611+0000

Ratings and Alerts

No rating or validation information has been found for Monocle3.

No alerts have been found for Monocle3.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 342 mentions in open access literature.

Listed below are recent publications. The full list is available at [kravitz2](#) .

Xu L, et al. (2026) Intracellular microbial signals in the gastrointestinal tract of dairy cattle. Microbiome, 14(1), 63.

Wang Q, et al. (2026) Integrated Single-Cell and Spatial Transcriptomics Reveal Cell-Type-Specific Immune Regulatory Networks in Maize Responding to Southern Corn Rust. Advanced science (Weinheim, Baden-Wurttemberg, Germany), 13(27), e12295.

Gu L, et al. (2026) PD-1 blockade plus tyrosine kinase inhibitor remodels the tumor microenvironment in advanced renal cell carcinoma. Nature communications, 17(1).

Bui TM, et al. (2026) Identification of cycling regulatory T cell precursors as conductors of immune escape during breast carcinoma progression. Cancer cell, 44(6), 1179.

Han L, et al. (2026) ASO-based PKM splice-switching therapy increases anti-CTLA-4 antibody efficacy in pancreatic ductal adenocarcinoma. Cell discovery, 12(1).

Zhang K, et al. (2026) Hippo signaling differentially regulates distal progenitor subpopulations and their transitional states to construct the mammalian lungs. Nature communications, 17(1).

Masuda K, et al. (2026) Distinct CD8+ T cell types associated with COVID-19 severity in unvaccinated HLA-A2+ patients. iScience, 29(6), 115880.

Zhou X, et al. (2026) Identification and validation of a refined CAF-Associated diagnostic signature in breast cancer. Scientific reports, 16(1), 4664.

Maeda M, et al. (2026) CRISPR screen of human pancreatic cancer xenografts identifies a KLF5 proliferation vulnerability through epigenetic modifiers NCAPD2 and MTHFD1. Molecular cancer, 25(1).

Unno R, et al. (2026) A single cell transcriptional profile of benign prostatic hyperplasia. *Scientific reports*, 16(1).

Zhao Y, et al. (2026) Integrated Single-Cell Multi-Omics Analysis Reveals That a CD8+ TPex-Monocyte Interaction Axis Coordinates Immune Infiltration in Alzheimer's Disease. *International journal of molecular sciences*, 27(4).

Warheit-Niemi HI, et al. (2026) The chromatin remodeling complex PRC2 safeguards cell fate in alveolar epithelial type 2 cells. *bioRxiv : the preprint server for biology*.

Du JO, et al. (2026) Machine learning-driven transcriptomic and single-cell profiling of programmed cell death patterns in colon cancer. *Science progress*, 109(1), 368504261432995.

Menacho C, et al. (2026) Accelerating Leigh syndrome drug discovery through deep learning screening in brain organoids. *Nature communications*, 17(1).

Hashikawa K, et al. (2026) Esr1-dependent signaling and transcriptional maturation in the medial preoptic area of the hypothalamus shape the development of mating behavior during adolescence. *eLife*, 14.

Zhang W, et al. (2026) Unveiling the comorbidity hub: WT1 drives renal cancer progression in chronic kidney disease and confers sirolimus vulnerability. *Experimental and therapeutic medicine*, 32(2), 220.

Yu D, et al. (2026) Single-cell atlas of hepatitis C virus inoculated tree shrew liver reveals immune activation, metabolic reprogramming, and persistent inflammation. *EBioMedicine*, 123, 106080.

Nam KH, et al. (2026) Divergence between neural and retinal lineage specification during human brain development by signal transduction. *Journal of advanced research*, 85, 375.

Du H, et al. (2026) Niacin promotes motor function recovery after spinal cord injury via Hcar2-dependent microglia immunometabolic regulation. *Clinical and translational medicine*, 16(5), e70683.

Ralston CQ, et al. (2026) Comparative single-cell atlases reveal injury-driven tubal epithelial regeneration as a window for ovarian carcinoma initiation. *bioRxiv : the preprint server for biology*.