

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: 20260905T132841+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 [Kravitz](#) .

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.

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).

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

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

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).

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).

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.

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.

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.

Yarikipati P, et al. (2026) Single-cell RNA analysis reveals unexpected hemocyte plasticity and immune cell specialization in a *Drosophila* overgrowth model. *bioRxiv : the preprint server for biology*.

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*.