

Resource Summary Report

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TopHat

RRID:SCR_013035

Type: Tool

Proper Citation

TopHat (RRID:SCR_013035)

Resource Information

URL: <http://ccb.jhu.edu/software/tophat/index.shtml>

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Description: Software tool for fast and high throughput alignment of shotgun cDNA sequencing reads generated by transcriptomics technologies. Fast splice junction mapper for RNA-Seq reads. Aligns RNA-Seq reads to mammalian-sized genomes using ultra high-throughput short read aligner Bowtie, and then analyzes mapping results to identify splice junctions between exons. TopHat2 is accurate alignment of transcriptomes in presence of insertions, deletions and gene fusions.

Synonyms: tophat, TopHat1, Tophat2

Resource Type: alignment software, data analysis software, data processing software, image analysis software, sequence analysis software, software application, software resource

Defining Citation: [PMID:23618408](#), [PMID:19289445](#), [DOI:10.1093/bioinformatics/btp120](#)

Keywords: align, RNA-Seq, read, cDNA, sequencing, transcriptomics, fast, splice, junction, mapper, exon, analysis, bio.tools

Funding: NHGRI R01 HG006102;
NHGRI R01 HG006677

Availability: Free, Available for download, Freely available

Resource Name: TopHat

Resource ID: SCR_013035

Alternate IDs: biotools:tophat, OMICS_01257

Alternate URLs: <https://github.com/infphilo/tophat>, <https://bio.tools/tophat>, <https://sources.debian.org/src/tophat/>

Old URLs: <http://tophat.cbcb.umd.edu/>

License: Boost Software License 1.0

Record Creation Time: 20220129T080313+0000

Record Last Update: 20260821T193954+0000

Ratings and Alerts

- Used for RNA-Seq by the Human Islet Research Network community. Contact(s): [Diane Saunders](#), [Marcela Brissova](#), [John Walker](#), [Dale Greiner](#), [Al Powers](#) - Human Islets Research Network <https://hirnetwork.org/>

No alerts have been found for TopHat.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 9789 mentions in open access literature.

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

Singh D, et al. (2026) Antibody-Mediated Targeting of Secretory Protein SCUBE3 Suppresses Cancer Progression by Inhibiting Oncogenic Signaling and Inducing Antitumor Immunity. Cancer research, 86(5), 1252.

Kim DH, et al. (2026) Tumor Exosomal L1 Cell Adhesion Molecule Promotes Brain Metastasis of Lung Cancer. Research (Washington, D.C.), 9, 1126.

Nakajo S, et al. (2026) Hypoxic CAF studies unveil PTHrP?vitamin D?RAS axis as pivotal in the CAF. Oncology reports, 55(6).

Shi X, et al. (2026) LINC02470 impairs natural killer cell cytotoxicity by epigenetically targeting the natural cytotoxicity triggering receptor 1. Frontiers in immunology, 17, 1627089.

Tsuji T, et al. (2026) Microglia Display Heterogeneous Initial Responses to Disseminated Tumor Cells. Cancer research, 86(6), 1414.

Xue Y, et al. (2026) Mucosal-associated invariant T cells recognize a tumor-derived metabolite in the DNA synthesis pathway. Frontiers in immunology, 17, 1797918.

- Wang Y, et al. (2026) Identification of CADM1 as an Immunotherapeutic Target and Evaluation of a Novel CADM1-Targeting Antibody-Drug Conjugate in Preclinical Osteosarcoma Models. *Molecular cancer therapeutics*, 25(6), 881.
- Guo Y, et al. (2026) A modular synthetic biology toolkit unlocks metabolic engineering of the industrially relevant alga *Nannochloropsis*. *Advanced biotechnology*, 4(1), 2.
- Xia Z, et al. (2026) PI3K and MAPK Signaling Nodes Serve as Divergent Drivers of Phenotypic Plasticity in Cancer-Associated Fibroblasts in Colorectal Cancer. *Cancer research*, 86(12), 3040.
- Salladay-Perez IA, et al. (2026) p21+TREM2+ senescent macrophages fuel inflammaging and metabolic dysfunction-associated steatotic liver disease. *Nature aging*, 6(4), 792.
- Lee JM, et al. (2026) Radiologic phenotype-specific transcriptomic signatures in lung tissues from patients with *Mycobacterium avium* complex pulmonary disease. *European journal of medical research*, 31(1), 299.
- Hao X, et al. (2026) Host Oxidative Response Capacity Determines Longevity Outcomes of Microbial Interventions. *Aging cell*, 25(2), e70418.
- Sharma A, et al. (2026) VapC36-mediated intrinsic stress adaption is required for copper tolerance and pathogenesis of *Mycobacterium tuberculosis*. *Science advances*, 12(7), eadw7134.
- Kubota S, et al. (2026) γ -Glutamylcyclotransferase Depletion Induces p15INK4b and p21Cip1-mediated Senescence via TGF- β /SMAD3 Pathway Activation in Breast Cancer Cells. *Cancer genomics & proteomics*, 23(2), 195.
- Gao L, et al. (2026) Transcriptome Sequencing Unveils a Novel Mechanism Underlying Breed Distinctions Between Thin- and Fat-Tailed Sheep. *Genes*, 17(2).
- Machida T, et al. (2026) LSD1 inhibitor, TAS1440, disrupts INSM1-LSD1 complex activating tumor-suppressive pathways via transcriptional reprogramming in neuroendocrine SCLC. *Nature communications*, 17(1).
- Ueyama T, et al. (2026) Contribution of a Novel TetR/AcrR Family Transcriptional Regulator RalT of *Ralstonia pseudosolanacearum* Strain OE1-1 to the Fine-Tuning of Its Virulence. *MicrobiologyOpen*, 15(1), e70229.
- Christensen KE, et al. (2026) Signatures of Innovation and Selection in the Extremotolerant Yeast *Kluyveromyces marxianus*. *Genome biology and evolution*, 18(3).
- Qiu A, et al. (2026) A Switch in Iron Delivery Is Critical for Postnatal Kidney Development. *Kidney360*, 7(5), 982.
- Yano S, et al. (2026) Electrolyzed Hydrogen Water Improves Chemosensitivity to Anticancer Drugs by Potently Suppressing Autophagy. *Journal of cellular and molecular medicine*, 30(4), e71011.