

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: 20260905T132731+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 [PRECISE-TBI](#) .

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

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.

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.

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

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.

Jiao H, et al. (2026) HUWE1 in Skeletal Muscle Prevents Muscle Fatigue via Maintaining Iron and Calcium Homeostasis. *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*, 13(4), e16719.

Faught E, et al. (2026) Mineralocorticoid and glucocorticoid receptor heterodimers mediate cortisol-induced behavioural changes via modulation of glutamatergic signalling. *Molecular psychiatry*, 31(4), 2338.

Tong X, et al. (2026) HMGB2-RAD21 Axis Promotes Fibro/Adipogenic Progenitor Proliferation and Regulates Fat Infiltration. *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*, 13(16), e14363.

Johnson M, et al. (2026) Whole Blood Transcriptomic Analysis of Sick Cell Trait. *European journal of haematology*, 116(5), 535.

Lei FL, et al. (2026) Chromosome-level genome assembly of *Nemipterus japonicus* based on PacBio sequencing and Hi-C technology. *Scientific data*, 13(1), 218.

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

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.

Hao X, et al. (2026) Host Oxidative Response Capacity Determines Longevity Outcomes of Microbial Interventions. *Aging cell*, 25(2), e70418.

Guo Y, et al. (2026) A modular synthetic biology toolkit unlocks metabolic engineering of the industrially relevant alga *Nannochloropsis*. *Advanced biotechnology*, 4(1), 2.

Ito H, et al. (2026) Gene expression changes in lymphocytes and monocytes from patients with traumatic brain injury. *Scientific reports*, 16(1).

Qiu A, et al. (2026) A Switch in Iron Delivery Is Critical for Postnatal Kidney Development. *Kidney360*, 7(5), 982.

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.

Westover KR, et al. (2026) Loss of ATM causes R-loop-associated transcriptional dysregulation and attenuates the related response to DNA damage. *The Journal of biological chemistry*, 302(3), 111161.