

Resource Summary Report

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HomoloGene

RRID:SCR_002924

Type: Tool

Proper Citation

HomoloGene (RRID:SCR_002924)

Resource Information

URL: <http://www.ncbi.nlm.nih.gov/homologene>

Proper Citation: HomoloGene (RRID:SCR_002924)

Description: Automated system for constructing putative homology groups from complete gene sets of wide range of eukaryotic species. Database that provides system for automatic detection of homologs, including paralogs and orthologs, among annotated genes of sequenced eukaryotic genomes. HomoloGene processing uses proteins from input organisms to compare and sequence homologs, mapping back to corresponding DNA sequences. Reports include homology and phenotype information drawn from Online Mendelian Inheritance in Man, Mouse Genome Informatics, Zebrafish Information Network, Saccharomyces Genome Database and FlyBase.

Abbreviations: HomoloGene

Synonyms: NCBI HomoloGene

Resource Type: data or information resource, database, service resource

Defining Citation: [PMID:23193264](#)

Keywords: homolog, paralog, ortholog, genome, gene, protein, protein alignment, phenotype, conserved domain, homology, amino acid sequence, cell, dna, gold standard

Availability: Free, Freely available

Resource Name: HomoloGene

Resource ID: SCR_002924

Alternate IDs: nif-0000-02975, r3d100010781, OMICS_01544

Alternate URLs: <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=homologene>, <https://doi.org/10.17616/R3889F>

Record Creation Time: 20220129T080216+0000

Record Last Update: 20260801T190917+0000

Ratings and Alerts

No rating or validation information has been found for HomoloGene.

No alerts have been found for HomoloGene.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 437 mentions in open access literature.

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

Yoon JW, et al. (2025) Th1-poised naive CD4 T cell subpopulation reflects anti-tumor immunity and autoimmune disease. Nature communications, 16(1), 1962.

Dhungel S, et al. (2025) Structural assembly of the PAS domain drives the catalytic activation of metazoan PASK. Proceedings of the National Academy of Sciences of the United States of America, 122(12), e2409685122.

Chen X, et al. (2025) Identification and characterization of novel PAX4 variants in patients with suspected MODY9. BMJ open diabetes research & care, 13(6).

Sun Q, et al. (2025) Identification of a novel missense variant in the LMX1B gene associated with nail-patella syndrome in a Chinese family. Frontiers in genetics, 16, 1574076.

Wu K, et al. (2025) Cytosolic WPRa4 and Plastosomal PMI4 Proteins Mediate Touch Response in a Model Organism Arabidopsis. Molecular & cellular proteomics : MCP, 24(7), 101015.

Fox H, et al. (2025) Opioid-induced immunosuppression of brain myeloid cells in SIV-infected rhesus macaques. Research square.

Zhang J, et al. (2025) Unraveling CBS Mutations and Their Clinical Impact in a Chinese Family With Classical Homocystinuria. Molecular genetics & genomic medicine, 13(9), e70132.

Su C, et al. (2025) Case Report: A FBN1 frameshift-and-nonsense mutation and aortic dissection in Marfan syndrome. Frontiers in cardiovascular medicine, 12, 1533138.

Lin Q, et al. (2025) Novel variations in the PLOD1, COL1A1, COL5A2 and COL4A1 genes related to keratoconus. Frontiers in genetics, 16, 1497915.

Runge S, et al. (2025) Laboratory mice engrafted with natural gut microbiota possess a wildling-like phenotype. *Nature communications*, 16(1), 5301.

Ma Y, et al. (2025) Colla Corii Asini regulate collagen regeneration in UV exposure-induced skin photoaging in mice. *Chinese medicine*, 20(1), 146.

Makhani K, et al. (2025) Single-Cell Multi-Omics Profiling of Immune Cells Isolated from Atherosclerotic Plaques in Male ApoE Knockout Mice Exposed to Arsenic. *Environmental health perspectives*, 133(1), 17007.

Han B, et al. (2025) A multi-tissue single-cell expression atlas in cattle. *Nature genetics*, 57(10), 2546.

Beryozkin A, et al. (2024) Best Disease: Global Mutations Review, Genotype-Phenotype Correlation, and Prevalence Analysis in the Israeli Population. *Investigative ophthalmology & visual science*, 65(2), 39.

Werren EA, et al. (2024) A de novo variant in PAK2 detected in an individual with Knobloch type 2 syndrome. *bioRxiv : the preprint server for biology*.

Cai Z, et al. (2024) Selective deletion of E3 ubiquitin ligase FBW7 in VE-cadherin-positive cells instigates diffuse large B-cell lymphoma in mice in vivo. *Cell death & disease*, 15(3), 212.

Zhang Z, et al. (2024) The influences of ApoE isoforms on endothelial adherens junctions and actin cytoskeleton responding to mCRP. *Angiogenesis*, 27(4), 861.

O'Reilly ME, et al. (2024) linc-ADAIN, a human adipose lincRNA, regulates adipogenesis by modulating KLF5 and IL-8 mRNA stability. *Cell reports*, 43(5), 114240.

Jia Z, et al. (2024) Metabolic reprogramming and heterogeneity during the decidualization process of endometrial stromal cells. *Cell communication and signaling : CCS*, 22(1), 385.

Dhungel S, et al. (2024) Nutrient Signaling-Dependent Quaternary Structure Remodeling Drives the Catalytic Activation of metazoan PASK. *bioRxiv : the preprint server for biology*.