Resource Summary Report

Generated by dkNET on May 19, 2025

Gene Expression Database

RRID:SCR_006539
Type: Tool

Proper Citation

Gene Expression Database (RRID:SCR_006539)

Resource Information

URL: http://www.informatics.jax.org/expression.shtml

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Description: Community database that collects and integrates the gene expression information in MGI with a primary emphasis on endogenous gene expression during mouse development. The data in GXD are obtained from the literature, from individual laboratories, and from large-scale data providers. All data are annotated and reviewed by GXD curators. GXD stores and integrates different types of expression data (RNA in situ hybridization; Immunohistochemistry; in situ reporter (knock in); RT-PCR; Northern and Western blots; and RNase and Nuclease s1 protection assays) and makes these data freely available in formats appropriate for comprehensive analysis. There is particular emphasis on endogenous gene expression during mouse development. GXD also maintains an index of the literature examining gene expression in the embryonic mouse. It is comprehensive and up-to-date, containing all pertinent journal articles from 1993 to the present and articles from major developmental journals from 1990 to the present. GXD stores primary data from different types of expression assays and by integrating these data, as data accumulate, GXD provides increasingly complete information about the expression profiles of transcripts and proteins in different mouse strains and mutants. GXD describes expression patterns using an extensive, hierarchically-structured dictionary of anatomical terms. In this way, expression results from assays with differing spatial resolution are recorded in a standardized and integrated manner and expression patterns can be queried at different levels of detail. The records are complemented with digitized images of the original expression data. The Anatomical Dictionary for Mouse Development has been developed by our Edinburgh colleagues, as part of the joint Mouse Gene Expression Information Resource project. GXD places the gene expression data in the larger biological context by establishing and maintaining interconnections with many other resources. Integration with MGD enables a combined analysis of genotype, sequence, expression, and phenotype data. Links to PubMed, Online Mendelian Inheritance in Man (OMIM), sequence databases, and databases

from other species further enhance the utility of GXD. GXD accepts both published and unpublished data.

Abbreviations: GXD

Synonyms: Jackson Lab Gene Expression Database

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

Defining Citation: PMID:21062809

Keywords: endogenous, expression assay, expression data, expression image, gene expression, genes, image, immunohistochemistry, in situ reporter, knock in, mouse, mouse mutant, northern blot, nuclease protection assay, rna in situ hybridization, rnase protection assay, rt-pcr, western blot, endogenous gene expression, mouse development, gene, transcript, protein, annotation, development, embryonic mouse, bio.tools, FASEB list

Funding: NICHD HD033745

Availability: Free

Resource Name: Gene Expression Database

Resource ID: SCR_006539

Alternate IDs: nif-0000-01253, biotools:gxd, SCR_017529

Alternate URLs: https://bio.tools/gxd

Record Creation Time: 20220129T080236+0000

Record Last Update: 20250517T055751+0000

Ratings and Alerts

No rating or validation information has been found for Gene Expression Database.

No alerts have been found for Gene Expression Database.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 54 mentions in open access literature.

Listed below are recent publications. The full list is available at dkNET.

Baldarelli RM, et al. (2024) Mouse Genome Informatics: an integrated knowledgebase system for the laboratory mouse. Genetics, 227(1).

Trigila AP, et al. (2023) Accelerated evolution analysis uncovers PKNOX2 as a key transcription factor in the mammalian cochlea. Molecular biology and evolution.

Ringwald M, et al. (2022) Mouse Genome Informatics (MGI): latest news from MGD and GXD. Mammalian genome : official journal of the International Mammalian Genome Society, 33(1), 4.

Feng S, et al. (2022) Incomplete lineage sorting and phenotypic evolution in marsupials. Cell, 185(10), 1646.

Ramirez M, et al. (2022) The Cerebellar Gene Database: a Collective Database of Genes Critical for Cerebellar Development. Cerebellum (London, England), 21(4), 606.

Aftab W, et al. (2022) ImShot: An Open-Source Software for Probabilistic Identification of Proteins In Situ and Visualization of Proteomics Data. Molecular & cellular proteomics : MCP, 21(6), 100242.

Sanchez D, et al. (2021) The Lipocalin Apolipoprotein D Functional Portrait: A Systematic Review. Frontiers in physiology, 12, 738991.

Zaghlool SB, et al. (2021) Revealing the role of the human blood plasma proteome in obesity using genetic drivers. Nature communications, 12(1), 1279.

Zou J, et al. (2021) The Versatile Gasdermin Family: Their Function and Roles in Diseases. Frontiers in immunology, 12, 751533.

Baldarelli RM, et al. (2021) The mouse Gene Expression Database (GXD): 2021 update. Nucleic acids research, 49(D1), D924.

Bastian FB, et al. (2021) The Bgee suite: integrated curated expression atlas and comparative transcriptomics in animals. Nucleic acids research, 49(D1), D831.

He B, et al. (2021) A Review of Current In Silico Methods for Repositioning Drugs and Chemical Compounds. Frontiers in oncology, 11, 711225.

Adachi K, et al. (2021) Possible correlated variation of GABAA receptor ?3 expression with hippocampal cholinergic neurostimulating peptide precursor protein in the hippocampus. Biochemical and biophysical research communications, 542, 80.

Werner A, et al. (2021) Widespread formation of double-stranded RNAs in testis. Genome research, 31(7), 1174.

Zhang X, et al. (2021) Gene expression of type II collagen is regulated by direct interaction with Kruppel-like factor 4 and AT-rich interactive domain 5B. Gene, 773, 145381.

Xu PF, et al. (2021) Construction of a mammalian embryo model from stem cells organized by a morphogen signalling centre. Nature communications, 12(1), 3277.

Smith CM, et al. (2020) GXD's RNA-Seq and Microarray Experiment Search: using curated metadata to reliably find mouse expression studies of interest. Database : the journal of biological databases and curation, 2020.

Rupert JE, et al. (2020) In Vitro, In Vivo, and In Silico Methods for Assessment of Muscle Size and Muscle Growth Regulation. Shock (Augusta, Ga.), 53(5), 605.

Swan AL, et al. (2020) Mouse mutant phenotyping at scale reveals novel genes controlling bone mineral density. PLoS genetics, 16(12), e1009190.

Chiou YY, et al. (2020) Kidney-based in vivo model for drug-induced nephrotoxicity testing. Scientific reports, 10(1), 13640.