Resource Summary Report

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Mouse Phenome Database (MPD)

RRID:SCR_003212
Type: Tool

Proper Citation

Mouse Phenome Database (MPD) (RRID:SCR_003212)

Resource Information

URL: http://phenome.jax.org/

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Description: Database enables integration of genomic and phenomic data by providing access to primary experimental data, data collection protocols and analysis tools. Data represent behavioral, morphological and physiological disease-related characteristics in naive mice and those exposed to drugs, environmental agents or other treatments. Collaborative standardized collection of measured data on laboratory mouse strains to characterize them in order to facilitate translational discoveries and to assist in selection of strains for experimental studies. Includes baseline phenotype data sets as well as studies of drug, diet, disease and aging effect., protocols, projects and publications, and SNP, variation and gene expression studies. Provides tools for online analysis. Data sets are voluntarily contributed by researchers from variety of institutions and settings, or retrieved by MPD staff from open public sources. MPD has three major types of strain-centric data sets: phenotype strain surveys, SNP and variation data, and gene expression strain surveys. MPD collects data on classical inbred strains as well as any fixed-genotype strains and derivatives that are openly acquirable by the research community. New panels include Collaborative Cross (CC) lines and Diversity Outbred (DO) populations. Phenotype data include measurements of behavior, hematology, bone mineral density, cholesterol levels, endocrine function, aging processes, addiction, neurosensory functions, and other biomedically relevant areas. Genotype data are primarily in the form of single-nucleotide polymorphisms (SNPs). MPD curates data into a common framework by standardizing mouse strain nomenclature, standardizing units (SI where feasible), evaluating data (completeness, statistical power, quality), categorizing phenotype data and linking to ontologies, conforming to internal style guides for titles, tags, and descriptions, and creating comprehensive protocol documentation including environmental parameters of the test animals. These elements are critical for experimental reproducibility.

Abbreviations: MPD

Synonyms: Mouse Phenome Database

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

Defining Citation: PMID:24243846, PMID:22102583, PMID:18987003, PMID:17151079

Keywords: female, genomic location, genotype, inbred strain, male, mouse strain, phenome, phenotype, qtl, reference data, single-nucleotide polymorphism, strain allele, strain characteristic, strain, trait, gene expression, variation, hypothesis testing, data set, bio.tools, FASEB list

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Availability: Restricted

Resource Name: Mouse Phenome Database (MPD)

Resource ID: SCR_003212

Alternate IDs: biotools:mpd, nif-0000-03160

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

Old URLs: http://www.jax.org/phenome

Record Creation Time: 20220129T080217+0000

Record Last Update: 20250502T055406+0000

Ratings and Alerts

No rating or validation information has been found for Mouse Phenome Database (MPD).

No alerts have been found for Mouse Phenome Database (MPD).

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 215 mentions in open access literature.

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

Fang Z, et al. (2025) Twenty-first century mouse genetics is again at an inflection point. Lab animal, 54(1), 9.

Barón-Mendoza I, et al. (2025) Single-nucleotide polymorphism analysis accurately predicts multiple impairments in hippocampal activity and memory performance in a murine model of idiopathic autism. Scientific reports, 15(1), 749.

Masson SWC, et al. (2024) Unlocking metabolic insights with mouse genetic diversity. The EMBO journal, 43(21), 4814.

Pilling D, et al. (2024) Inhibition of CCl4-induced liver inflammation and fibrosis by a NEU3 inhibitor. PloS one, 19(11), e0308060.

Ball RL, et al. (2024) GenomeMUSter mouse genetic variation service enables multitrait, multipopulation data integration and analysis. Genome research, 34(1), 145.

Chen PB, et al. (2024) Complementation testing identifies genes mediating effects at quantitative trait loci underlying fear-related behavior. Cell genomics, 4(5), 100545.

Asadi F, et al. (2024) An orally available compound suppresses glucagon hypersecretion and normalizes hyperglycemia in type 1 diabetes. JCI insight, 9(2).

Barón-Mendoza I, et al. (2024) Altered hippocampal neurogenesis in a mouse model of autism revealed by genetic polymorphisms and by atypical development of newborn neurons. Scientific reports, 14(1), 4608.

Okamoto AS, et al. (2024) Parallel Evolution at the Regulatory Base-Pair Level Contributes to Mammalian Interspecific Differences in Polygenic Traits. Molecular biology and evolution, 41(8).

Ureña E, et al. (2024) Trametinib ameliorates aging-associated gut pathology in Drosophila females by reducing Pol III activity in intestinal stem cells. Proceedings of the National Academy of Sciences of the United States of America, 121(4), e2311313121.

Raza A, et al. (2023) A genetic locus complements resistance to Bordetella pertussis-induced histamine sensitization. Communications biology, 6(1), 244.

Timmermans S, et al. (2023) Mousepost 2.0, a major expansion of the resource. Nucleic acids research, 51(4), 1652.

Hu Y, et al. (2023) Omic horizon expression: a database of gene expression based on RNA sequencing data. BMC genomics, 24(1), 674.

Bogue MA, et al. (2023) Mouse phenome database: curated data repository with interactive multi-population and multi-trait analyses. Mammalian genome : official journal of the International Mammalian Genome Society, 34(4), 509.

Jaljuli I, et al. (2023) A multi-lab experimental assessment reveals that replicability can be improved by using empirical estimates of genotype-by-lab interaction. PLoS biology, 21(5), e3002082.

Philip VM, et al. (2023) Gene expression genetics of the striatum of Diversity Outbred mice. Scientific data, 10(1), 522.

Binh Tran TD, et al. (2023) Microbial glutamate metabolism predicts intravenous cocaine self-administration in diversity outbred mice. Neuropharmacology, 226, 109409.

Bogue MA, et al. (2023) Mouse Phenome Database: towards a more FAIR-compliant and TRUST-worthy data repository and tool suite for phenotypes and genotypes. Nucleic acids research, 51(D1), D1067.

Philip VM, et al. (2023) Gene expression genetics of the striatum of Diversity Outbred mice. bioRxiv : the preprint server for biology.

Josefson CC, et al. (2023) Understanding Patterns of Life History Trait Covariation in an Untapped Resource, the Lab Mouse. Physiological and biochemical zoology : PBZ, 96(5), 321.