

Resource Summary Report

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Mouse Phenome Database (MPD)

RRID:SCR_003212

Type: Tool

Proper Citation

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

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: Free, Freely available

Resource Name: Mouse Phenome Database (MPD)

Resource ID: SCR_003212

Alternate IDs: biotools:mpd, nif-0000-03160, r3d100010101

Alternate URLs: <https://bio.tools/mpd>, <https://doi.org/10.17616/R3PC7F>

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

Record Creation Time: 20220129T080217+0000

Record Last Update: 20260729T044038+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 221 mentions in open access literature.

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

Miller AK, et al. (2025) Concordance between male- and female-specific GWAS results helps define underlying genetic architecture of complex traits. *Nature communications*, 16(1), 8695.

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

Haque R, et al. (2025) Essential resources and best practices for laboratory mouse research. *Molecules and cells*, 48(2), 100178.

Jiang N, et al. (2025) Deciphering the timing and impact of life-extending interventions: temporal efficacy profiler distinguishes early, midlife, and senescence phase efficacies. *Nature communications*, 16(1), 10164.

Aigner B, et al. (2025) Variability of test parameters from mice of different age groups in published data sets. *PloS one*, 20(8), e0329357.

Lucey CM, et al. (2025) Isotopic Fractionation of Natural Uranium in Mice as a Potential Biomarker of Renal Accumulation. *Environmental science & technology*, 59(28), 14279.

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.

Steele-Perkins P, et al. (2025) Comparison between dietary, parenteral, and genetic iron overload on bone health reveals secondary iron overload as a driver of cortical bone loss and fracture risk in mice. *JBMR plus*, 9(10), ziaf118.

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.