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

Funding Agency: NIDA, NHGRI, NHLBI, NIA, NIA, NIMH, NIDA

Availability: Restricted

Resource Name: Mouse Phenome Database (MPD)

Resource ID: SCR_003212

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

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

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

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 197 mentions in open access literature.

Listed below are recent publications. The full list is available at RRID.
Timmermans S, et al. (2023) Mousepost 2.0, a major expansion of the resource. Nucleic acids research, 51(4), 1652.

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

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.

Hansen KEA, et al. (2022) Comparison of young male mice of two different strains (C57BL/6J and the hybrid B6129SF1/J) in selected behavior tests: a small scale study. Laboratory animal research, 38(1), 30.

Li H, et al. (2022) Integrative systems analysis identifies genetic and dietary modulators of bile acid homeostasis. Cell metabolism, 34(10), 1594.

Bufi R, et al. (2022) The impact of genetic background on mouse models of kidney disease. Kidney international, 102(1), 38.

Sasaki H, et al. (2022) Tensin 2-deficient nephropathy: mechanosensitive nephropathy, genetic susceptibility. Experimental animals, 71(3), 252.

Sheppard K, et al. (2022) Stride-level analysis of mouse open field behavior using deep-learning-based pose estimation. Cell reports, 38(2), 110231.

Arora UP, et al. (2022) Meiotic drive in house mice: mechanisms, consequences, and insights for human biology. Chromosome research : an international journal on the molecular, supramolecular and evolutionary aspects of chromosome biology, 30(2-3), 165.

Yam P, et al. (2022) Altered macronutrient composition and genetics influence the complex transcriptional network associated with adiposity in the Collaborative Cross. Genes & nutrition, 17(1), 13.

Aigner B, et al. (2021) Analysis of the sex-specific variability of blood parameters in data sets of the Mouse Phenome Database. BMC research notes, 14(1), 322.

Wang M, et al. (2021) The Effect of Population Structure on Murine Genome-Wide Association Studies. Frontiers in genetics, 12, 745361.

Durán A, et al. (2021) Identification of genetic modifiers of murine hepatic ?-glucocerebrosidase activity. Biochemistry and biophysics reports, 28, 101105.
Brinkmeyer-Langford C, et al. (2021) Resilience in Long-Term Viral Infection: Genetic Determinants and Interactions. International journal of molecular sciences, 22(21).

Arora UP, et al. (2021) Population and subspecies diversity at mouse centromere satellites. BMC genomics, 22(1), 279.

Dai L, et al. (2021) A Tiered Genetic Screening Strategy for the Molecular Diagnosis of Intellectual Disability in Chinese Patients. Frontiers in genetics, 12, 669217.

Munz M, et al. (2021) In silico candidate variant and gene identification using inbred mouse strains. PeerJ, 9, e11017.

Lee HK, et al. (2021) A Neuroprotective Locus Modulates Ischemic Stroke Infarction Independent of Collateral Vessel Anatomy. Frontiers in neuroscience, 15, 705160.

Blake JA, et al. (2021) Mouse Genome Database (MGD): Knowledgebase for mouse-human comparative biology. Nucleic acids research, 49(D1), D981-D987.