

Function

Gene Ontology, Phenotype, Pathway info

Rat Genome

Browse the Rat Genome

Genome Tools

Data mining, analysis and visualization

Pathways

Pathway reports and diagrams

Strains

Search Strains

Diseases

Genes, QTL & Strains related to Disease

Phenotypes & Models

Phenotype data, Assays, Husbandry and more

stop

Featured RGD Video Tutorials

Introduction to the Variant Visualizer

The examination of SNPs has undergone a recent change, and in response to this change, RGD has released the new Variant Visualizer tool (VarVis), taking the place of the old SNPtoyer tool. VarVis is a visualization and analysis tool for sequence variation. The data currently contains 22 rat strains sequenced by 4 independent labs.

Methionine, Homocysteine & Folate Metabolic Pathway Suite

UPDATED
RGD releases a suite of new metabolic pathway diagrams. Click here to explore these interconnected, interdependent pathways.

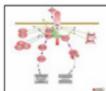
The Gene Annotator

The Gene Annotator takes a list of gene symbols, RGD IDs, GenBank accession numbers, Ensembl identifiers, and/or a chromosomal region, and retrieves annotation data from RGD. This tool will retrieve annotations from any or all ontologies used at RGD for genes and their orthologs, as well as links to additional information at other databases.

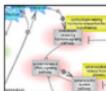
Latest News

06/27 - RGD releases interactive pathway diagrams for nucleotide excision repair and its altered version
06/06 - The updated pathway suite for methionine, homocysteine, folate and related metabolites is now available at RGD

Molecular Pathways

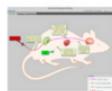


The individual diagram pages can be accessed directly from the list that catalogs them alphabetically based on the major nodes of the pathway ontology. Alternatively, one can search the pathway ontology for terms of interest, the ontology report page provides an icon with a link to the diagram page if one exists for that term. [Click here](#) to view choices of molecular pathways.



The pathway suites offer an instant snapshot of pathways that are connected within a larger network or context. The alphabetically listed suites can be accessed [here](#).

Physiological Pathways



The RGD physiological pathway diagrams display pathways at the whole animal and systems levels with the ability to examine signaling networks, responses and linked molecular pathways as well. [Click here](#) to view choices of physiological pathways.

Pathway-related Publications by RGD Members

The updated RGD Pathway Portal utilizes increased curation efficiency and provides expanded pathway information.

Hayman GT, Jayaraman P, Petri V, Tutaj M, Liu W, De Pons J, Dwinell MR, Shimoyama M, Worthey E, Munzenmaier DH, Jacob HJ. Hum Genomics. 2013 7(1):4
PMID: 23379628

Pathway Resources at the Rat Genome Database: A Dynamic Platform for Integrating Gene, Pathway and Disease Information

Petri V

Chapter 14 in Handbook of Research on Computational and Systems Biology: Interdisciplinary Applications, IGI Global Publishers, 2011.

The rat genome database pathway portal

Petri V, Shimoyama M, Hayman GT, Smith JR, Tutaj M, de Pons J, Dwinell MR, Munzenmaier DH, Twigger SN, Jacob HJ, RGD Team.
Database (Oxford). 2011 Apr 8;2011:bar010. Print 2011.

PMID: 21478484

The BioPAX community standard for pathway data sharing

Demir E, Cary MP, Palek S, Fukuda K, Lemer C, Vasrik I, Wu C, D'Eustachio P, Schaefer C, Luciano J, Schacherer F, Martinez-Flores I, Hu Z, Jimenez-Jacinto V, Joshi-Tope G, Kandasamy K, Lopez-Fuentes AC, Mi H, Pichler E, Rodchenkov I, Spelidakis A, Thachdev S, Zucker J, Gopinath G, Rajasimha H, Ramakrishnan R, Shah I, Syed M, Anwar N, Babur O, Bilow M, Brauner E, Corwin D, Donaldson S, Gibbons F, Goldberg R, Honig M, Hubaut O, Kane D, Krupa S, Kulmon M, Leonard J, Marks D, Merberg D, Petri V, Prok A, Ravencroft D, Ren L, Shah N, Sunshine M, Tang R, Whaley R, Letovsky S, Buetow KH, Rzhetsky A, Schachter V, Subramanian S, Dogrusoz U, McWeeney S, Aladjem M, Birney E, Collado-Vides J, Goto S, Hucks M, Le Novère N, Maltsev N, Pandey A, Thomas P, Wingender E, Karp PD, Sander C, Bader GD.

Compendium Nat Biotechnol. 2010 Apr;28(9):935-42. Epub 2010 Sep 9. PMID: 20829833

Compendium Nat Biotechnol. 2012 Apr;30(4):365. Reubenacker O [corrected to Ruebenacker O].

The Rat Genome Database 2009 variation, ontologies and pathways

Dwinell MR, Worthey EA, Shimoyama M, Bakir-Gungor B, De Pons J, Lauleiderkind S, Lowry T, Nigam R, Petri V, Smith J, Stoddard A, Twigger SN, Jacob HJ, RGD Team.

Nucleic Acids Res. 2009 Jan, 37(Database issue): D744-9. Epub 2008 Nov 7. PMID: 18996890

Pathway-related Information and Data Links

RGD Pathway Portal Overview

Rat Gene Pathway Annotations File

Human Gene Pathway Annotations File

Mouse Gene Pathway Annotations File