







 <p>Genes Map positions, functions and more</p>	 <p>Strains Search Strains</p>	 <p>QTL Phenotypes & Traits linked to the genome</p>
 <p>Function Gene Ontology, Phenotype, Pathway info</p>	 <p>Diseases Genes, QTL & Strains related to Disease</p>	 <p>Phenotypes & Models Phenotype data, Assays, Husbandry and more</p>
 <p>Rat Genome Browse the Rat Genome</p>	 <p>Genome Tools Data mining, analysis and visualization</p>	 <p>Pathways Pathway reports and diagrams</p>

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 SNPPlotter tool. VarVis is a visualization and analysis tool for sequence variation. The data currently contains 22 rat strains sequenced by 4 independent labs.

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.

The Introduction to Biological Nomenclature Series

Methionine, Homocysteine & Folate Metabolic Pathway Suite



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

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, Munzmaier 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, Munzmaier DH, Twigger SN, Jacob HJ. RGD Term.

Database (Oxford). 2011 Apr 8;2011:bar010. Print 2011.

PMID: 21478484

The BioPAX community standard for pathway data sharing.

Demir E, Cary MP, Paley S, Fukuda K, Lerner C, Vastrik I, Wu G, D'Eustachio P, Schaefer C, Luciano J, Schacherer F, Martinez-Flores I, Hu Z, Jimenez-Jacinto V, Joshi-Tope C, Kandasamy K, Lopez-Fuentes AC, Mi H, Pichler E, Roudchenko V, Splendiani A, Trachev S, Zuckler J, Gopinath G, Rajasimha H, Ramakrishnan R, Shah I, Syed M, Anwar N, Babur O, Bilimw N, Brauner E, Conwin D, Donaldson S, Gibbons F, Goldberg R, Honig M, Hubbard O, Kane D, Krupa S, Kulman M, Leonard J, Marks D, Merberg D, Petri V, Pico A, Ravenscroft D, Ren L, Shah N, Sunshine M, Tang R, Whaley R, Letovsky S, Buelow KH, Rzhetsky A, Schachter V, Sobral BS, Dogrusoz U, McWeeney S, Adjem M, Birney E, Collado-VIDES J, Goto S, Hucka M, Le Novère N, Maltsev N, Pandey A, Thomas P, Wingender E, Karp PD, Sander C, Bader GD.

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

Corrigendum: 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, DePons J, Laulekinding S, Lowry T, Nigam R, Petri V, Smith J, Stoddard A, Twigger SN, Jacob HJ. RGD Term.

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

NCBO BioPortal Pathway Ontology