

Human Quantitative Trait Loci (QTL) Data within the Rat Genome Database (RGD)



T.F. Lowry, R. Nigam, M. Dwinell, D. Munzenmaier, S. Twigger and H. Jacob; The RGD Team; Rat Genome Database, Human and Molecular Genetics Center, Medical College of Wisconsin, Milwaukee, WI



<http://rgd.mcw.edu>

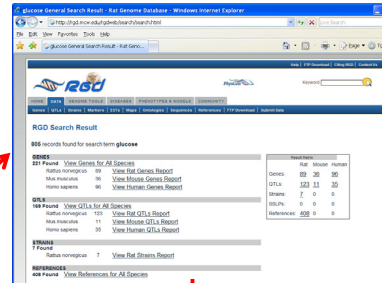
Human Quantitative Trait Loci (QTL) Data within the Rat Genome Database (RGD)
T.F. Lowry, R. Nigam, M. Dwinell, D. Munzenmaier, S. Twigger, H. Jacob and The RGD Team;
Rat Genome Database, Human and Molecular Genetics Center, Medical College of Wisconsin, Milwaukee, WI

In addition to rat data, RGD currently contains information on nearly 1600 Human QTLs. These QTL identify the location of genetic element(s) associated with traits or pathologies of human populations. Human QTL targeted for curation are prioritized by disease areas of most interest to rat researchers and have included those associated with the Disease Portals for neurological diseases, cardiovascular diseases, obesity and metabolic syndrome and cancer.

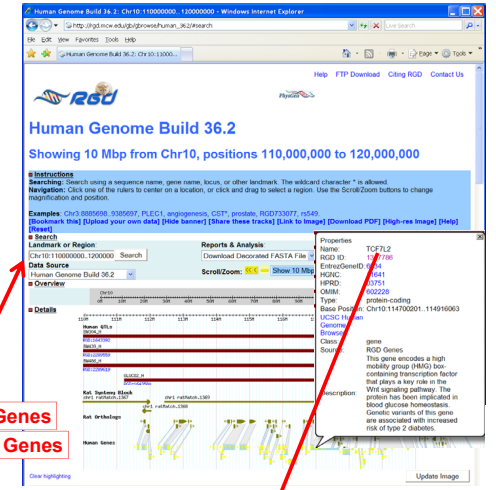
Human QTL data can be searched by keyword and/or position. A trait, phenotype or disease (e.g. blood pressure or hypertension), can be entered into the global search box, and human and rat QTLs related to the trait will be returned along with related information. Alternatively, QTL data can be retrieved from the "Data" tab near the top of the home page, the QTL icon on the home page, ontology searches, or the Disease Portals. In many of these tools, QTLs may also be listed for a location (chromosome and base pair range), independently of keyword. All of these approaches can be used separately for human or rat, or for both species combined.

The Human QTL report page includes information on the mapped trait, methodology notes, associated disease/phenotype, location, nearby markers, significance statistics/software used, population notes (source, ethnicity, sex, number), candidate genes suggested by the investigators, and a reference for the paper in which the QTL was reported.

Human QTL may be viewed in genomic context using the Human GBrowse or the new VC Map tool. Both tools allow the user to see genes within the region as well as provide links to syntenic regions in rat. The VC Map tool also allows the user to compare regions across multiple species. (Funded by NHLBI HL64541)



QTL report information can be used to map position



Rat Genes
Human Genes

QTL's can be accessed thru the data tab

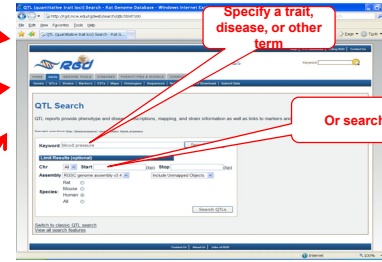
Or the keyword search

Example using QTL search tool

Specify a trait, disease, or other term

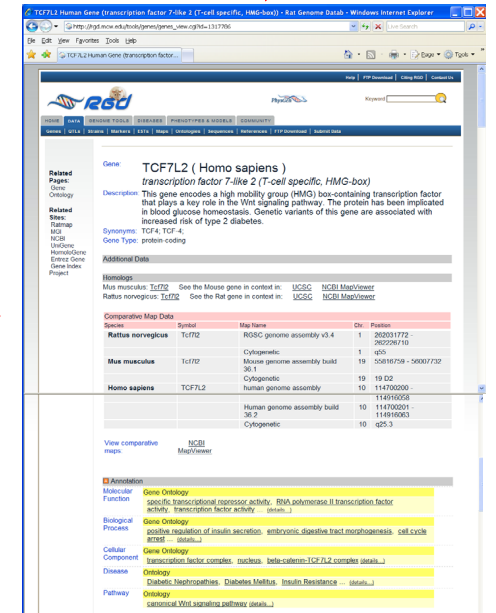
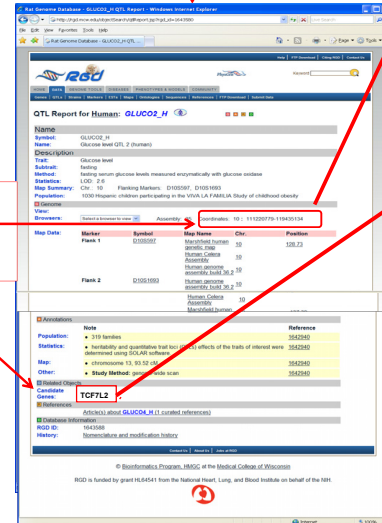
Or search by location

QTL's can be accessed thru the tools tab



Sample QTL Report

Candidate Gene location or name



Summary: RGD contains a growing collection of human QTL data, and many tools that can be used to relate human and rat genetic data.

Supported by National Heart Lung and Blood Institute Grant HL64541.