

# Gene/Disease Curation at the Rat Genome Database (RGD)

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# RGD Disease Curation

## Ontologies/vocabularies

1. RDO (RGD Disease Ontology– based on MEDIC)
2. CMO – Clinical Measurement Ontology

## Entities manually annotated

1. Strains - rat
  2. QTLs – rat, human
  3. Genes – rat, mouse, human
- Genes also annotated by automated pipelines from OMIM and ClinVar

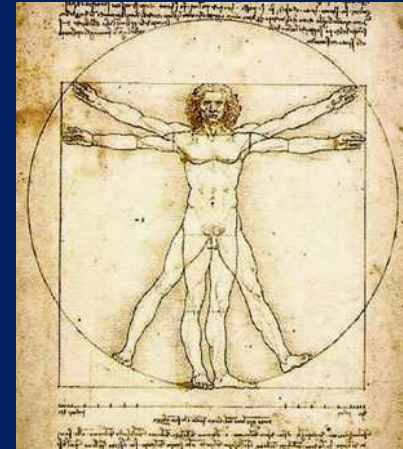
# Strain/QTL-Disease Annotations

Example:

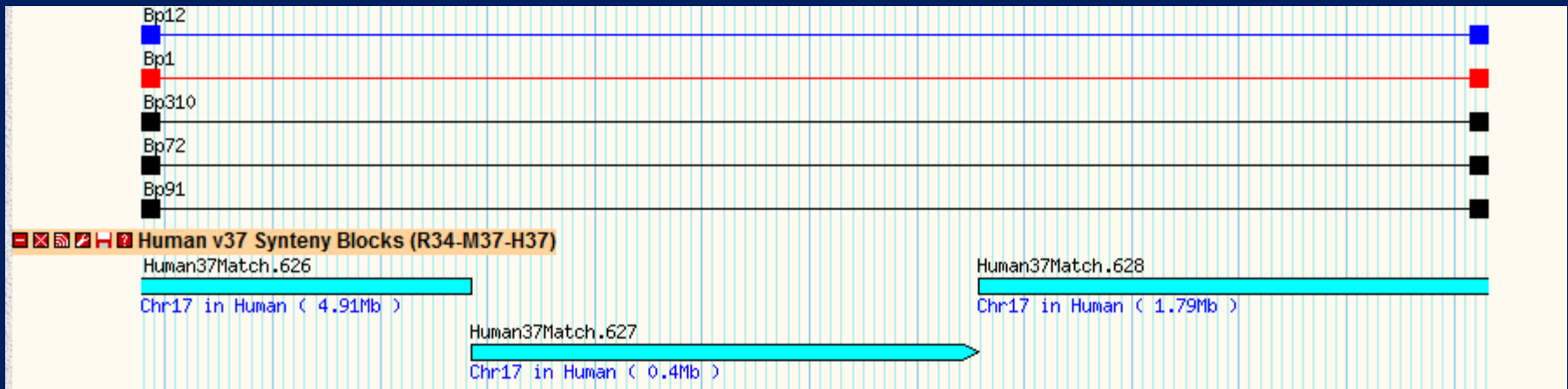
CMO - percentage of study population developing pituitary tumors during a period of time

RDO - Pituitary Neoplasms

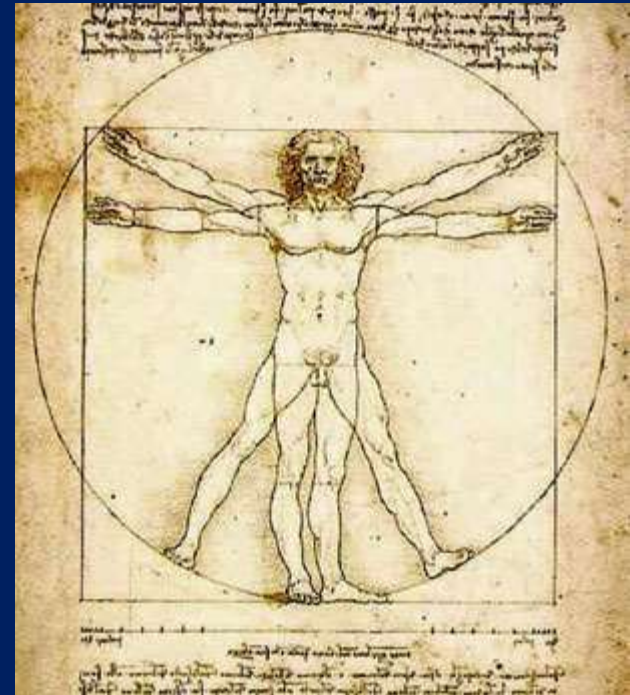
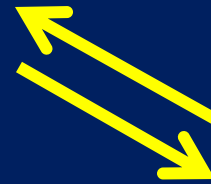
# QTL-Disease RDO Annotations



## GBrowse



# Gene-Disease Annotations



# Curation Tool

### Make an Annotation

**Curation Tool**

Core Objects

G : Ptgs1

G : Ptgs1

G : PTGS1

Select Objects

---

Ontology Terms

[D] Arthritis, Experimental

Select Terms

---

References

RGD:5687744

Select References

---

Associations

Clear Everything

---

**Tools**

Curation Tool

Object Edit

Merge/Retire/Split Objects

Core Objects

\*  Rat Gene: **Ptgs1**

Mouse Gene: **Ptgs1**

Human Gene: **PTGS1**

[Change Gene Descriptions](#)

Ontology Terms

\*  [D] Arthritis, Experimental

References

\*  Anti-inflammatory effect of low intensity ultrasound (LIUS) on complete Freund's adjuvant-induced arthritis synovium. (RGD:5687744)

Qualifier

Evidence Code \*

With Info.

Notes

[Generate List](#)

**3 Association(s) to be created:**

[Click here to revise](#)

ObjectName	Reference	[I] Term	Qualifier	Evidence	With Info	Species	Select
Ptgs1	RGD:5687744	[D] Arthritis, Experimental		IEP			<input checked="" type="checkbox"/>
Ptgs1	RGD:5687744	[D] Arthritis, Experimental		ISS	RGD:3439		<input checked="" type="checkbox"/>
PTGS1	RGD:5687744	[D] Arthritis, Experimental		ISS	RGD:3439		<input checked="" type="checkbox"/>

[Create Selected Annotations in DataBase](#)

## Automated ortholog annotation

# Gene-Orthologs-Disease

<b>Orthologs:</b>	Homo sapiens : <a href="#">PTGS1 (prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase))</a> <a href="#">HGNC</a> Mus musculus : <a href="#">Ptgs1 (prostaglandin-endoperoxide synthase 1)</a> <a href="#">MGI</a>	<a href="#">more info ...</a>
<b>Latest Assembly:</b>	RGSC Genome Assembly v5.0	

## Annotation [\(Toggle Detail/Summary View\)](#)

### - Disease Annotations

#### RGD Manual Annotations

Term	Qualifier	Evidence	With	Reference	Notes	Source	Original Reference(s)
<a href="#">Alzheimer Disease</a>		ISS	<a href="#">RGD:736739</a>	<a href="#">5688249</a>	protein:increased expression:cerebral cortex	RGD	
<a href="#">Alzheimer Disease</a>		ISS	<a href="#">RGD:11184</a>	<a href="#">5688156</a>		RGD	
<a href="#">Alzheimer Disease</a>		IPM		<a href="#">5688147</a>		RGD	
<a href="#">Anaphylaxis</a>		IPM		<a href="#">2300247</a>		RGD	
<a href="#">Arthritis, Experimental</a>		IEP		<a href="#">5687744</a>	mRNA, protein:increased expression:synovium	RGD	
<a href="#">Bipolar Disorder</a>		ISS	<a href="#">RGD:736739</a>	<a href="#">5688160</a>	mRNA, protein:decreased expression:prefrontal cortex	RGD	
<a href="#">Brain Injuries</a>		IEP		<a href="#">5688242</a>	protein:increased expression:microglia, macrophage	RGD	
<a href="#">Brain Injuries</a>		ISS	<a href="#">RGD:736739</a>	<a href="#">5688239</a>	protein:increased expression:microglial cells, macrophage, endothelial cell	RGD	
<a href="#">Brain Injuries</a>		ISS	<a href="#">RGD:11184</a>	<a href="#">5688162</a>		RGD	
<a href="#">Brain Ischemia</a>		ISS	<a href="#">RGD:11184</a>	<a href="#">5688240</a>		RGD	
<a href="#">Brain Ischemia</a>		ISS	<a href="#">RGD:736739</a>	<a href="#">5688247</a>	protein:increased expression:microglia, macrophage	RGD	
<a href="#">Breast Neoplasms</a>		ISS	<a href="#">RGD:736739</a>	<a href="#">2300213</a>	protein:increased expression:breast	RGD	

# Disease Portal

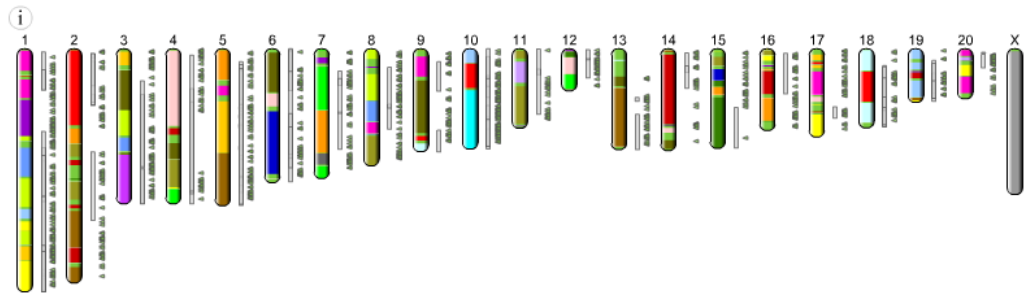
Cancer Portal - Rat Genes, QTLs, and Strains - Rat Genome Database : Cancer Portal

Summary	Rat	Human	Mouse
Genes	1355	1425	1355
QTLs	89	485	0
Strains	76		

Gviewer for... [Rat](#) [Human](#) [Mouse](#)

Press [SHIFT] + Click to view individual reports, or read Gviewer help

Species: rat Synteny: human



[Rat Synteny](#)  
[Human Synteny](#)  
[Mouse Synteny](#)

### Genes Info

Rat	Human	Mouse
A2m	A2M	2310067B10Rik
A4gnt	A4GNT	2610507B11Rik

### QTLs Info

Rat	Human	Mouse
Edcs1	MAMTS10_H	
Edcs2	MAMTS11_H	

### Strains Info

Rat
ACI.BN-(D5Mgh17-D5Mgh15)/Shul
ACI.COP-(D10Mgh20-D10Raf4)/Shul



# Acknowledgements



## Rat Genome Database

### Management:

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