

Genome sequencing projects statistics

Organism	Complete	Draft assembly	In progress	total
Prokaryotes	597	397	492	1486
Archaea	47	3	30	80
Bacteria	550	394	462	1406
Eukaryotes	23	131	184	338
Animals	4	54	89	147
Mammals	2	22	25	49
Birds		1	2	3
Fishes		3	6	9
Insects	1	19	20	40
Flatworms		1	3	4
Roundworms	1	3	13	17
Amphibians			2	2
Reptiles			2	2
Other animals		6	19	25
Plants	3	3	34	40
Land plants	2	2	27	31
Green Algae	1	1	7	9
Fungi	10	53	30	93
Ascomycetes	8	46	21	75
Basidiomycetes	1	5	5	11
Other fungi	1	2	4	7
Protists	6	19	27	52
Apicomplexans	1	10	6	17
Kinetoplasts	1	2	6	9
Other protists	4	7	14	25
total:	620	528	676	1824

Summary pages

Entrez Gene	4683
HGED Symbol Report	NBS1
KEGG gene	4683
euGenes	HUgn0004683
CGAP	25812
SOURCE	4683

Genomic resources

Genomic sequences	NCBI EBI DDBJ AB013139.1 NCBI EBI DDBJ AF069291.1
GDB	9598211
GenAtlas	NBS1
UCSC Genome Browser	chr8:91014739-91066075
Vista Genome Browser	Align sequence to [17 other genomes]
AceView	NBS1
dbSNP	rs14448 rs769420 rs3026268 rs3358 rs769414 rs1063054 rs3087624 rs16786 rs769416 rs2735383 rs3780123 More...

Transcripts

RefSeq	NM_002485
cDNA sequences	NCBI EBI DDBJ AF051334 NCBI EBI DDBJ AF058696 NCBI EBI DDBJ AK001017 NCBI EBI DDBJ BC005293 NCBI EBI DDBJ BC040519 NCBI EBI DDBJ BX640816
TIGR	THC16941

Protein sequences

TrEMBL	O60934
GenPept	AAC39732 AAC39752

Protein structure and domains

InterPro domains	IPR001357	IPR000253	IPR008984
Pfam	PF00533	PF00498	
ProDom	IPR001357	IPR000253	IPR008984
PROSITE	PS50006		

Protein function and disease links

OMIM	602667	251260
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Networks and pathways

PubGene	NBS1
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Literature Links

PubMed	24 PubMed articles
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UCSC Genome Bioinformatics

[Genomes](#) - [Blat](#) - [Tables](#) - [Gene Sorter](#) - [PCR](#) - [VisiGene](#) - [Proteome](#) - [FAQ](#) - [Help](#)

[Genome
Browser](#)

[ENCODE](#)

[Blat](#)

[Table
Browser](#)

[Gene Sorter](#)

[In Silico PCR](#)

[VisiGene](#)

[Proteome
Browser](#)

About the UCSC Genome Bioinformatics Site

This site contains the reference sequence and working draft assemblies for a large collection of genomes. It also provides a portal to the ENCODE project.

We encourage you to explore these sequences with our tools. The Genome Browser zooms and scrolls over chromosomes, showing the work of annotators worldwide. The Gene Sorter shows expression, homology and other information on groups of genes that can be related in many ways. Blat quickly maps your sequence to the genome. The Table Browser provides convenient access to the underlying database. VisiGene lets you browse through a large collection of *in situ* mouse and frog images to examine expression patterns.

News

[News Archives](#) ►

To receive announcements of new genome assembly releases, new software features, updates and training seminars by email, subscribe to the [genome-announce](#) mailing list.

Human (*Homo sapiens*) Genome Browser Gateway

The UCSC Genome Browser was created by the [Genome Bioinformatics Group of UC Santa Cruz](#).
Software Copyright (c) The Regents of the University of California. All rights reserved.

clade	genome	assembly	position or search term	image width	
Vertebrate ▼	Human ▼	May 2004 ▼	sickle cell	620	submit
Click here to reset the browser user interface settings to their defaults.					
manage custom tracks		configure tracks and display		clear position	

Sample position queries

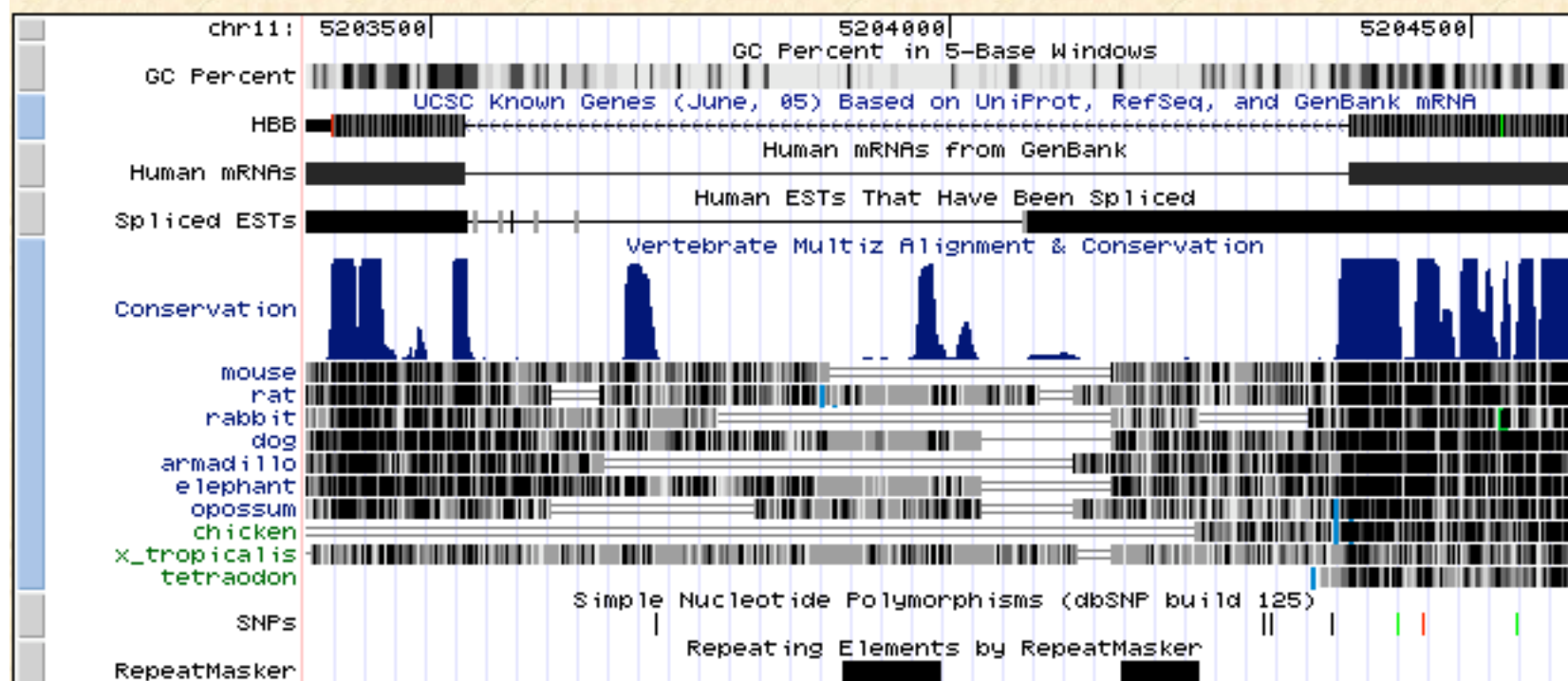
A genome position can be specified by the accession number of a sequenced genomic clone, an mRNA or EST or STS marker, or a cytological band, a chromosomal coordinate range, or keywords from the GenBank description of an mRNA. The following list shows examples of valid position queries for the human genome. See the [User's Guide](#) for more information.

Request:	Genome Browser Response:
chr7	Displays all of chromosome 7
20p13	Displays region for band p13 on chr 20
chr3:1-1000000	Displays first million bases of chr 3, counting from p arm telomere
chr3:1000000+2000	Displays a region of chr3 that spans 2000 bases, starting with position 1000000
D16S3046	Displays region around STS marker D16S3046 from the Genethon/Marshfield maps. Includes 100,000 bases on each side as well.
RH18061;RH80175	Displays region between STS markers RH18061;RH80175. Includes 100,000 bases on each side as well. This syntax may also be used for other range queries, such as between cytobands and uniquely-determined ESTs, mRNAs, refSeqs, etc.
AA205474	Displays region of EST with GenBank accession AA205474 in BRCA1 cancer gene on chr 17
AC008101	Displays region of clone with GenBank accession AC008101
AF083811	Displays region of mRNA with GenBank accession number AF083811
PRNP	Displays region of genome with HUGO Gene Nomenclature Committee identifier PRNP
NM_017414	Displays the region of genome with RefSeq identifier NM_017414
NP_059110	Displays the region of genome with protein accession number NP_059110
pseudogene mRNA	Lists transcribed pseudogenes, but not cDNAs
homeobox caudal	Lists mRNAs for caudal homeobox genes
zinc finger	Lists many zinc finger mRNAs
kruppel zinc finger	Lists only kruppel-like zinc fingers
huntington	Lists candidate genes associated with Huntington's disease
zahler	Lists mRNAs deposited by scientist named Zahler
Evans,J.E.	Lists mRNAs deposited by co-author J.E. Evans

position/search

size 1,228 bp.

chr11 (p15.4) 



[default tracks](#)[hide all](#)[manage custom tracks](#)[configure](#)[refresh](#)

Use drop down controls below and press refresh to alter tracks displayed.
Tracks with lots of items will automatically be displayed in more compact modes.

Custom Tracks

[Base Position](#)[new Snp](#)

Mapping and Sequencing Tracks

[Chromosome Band](#)[STS Markers](#)[FISH Clones](#)[Recomb Rate](#)[Map Contigs](#)[Assembly](#)[Gap](#)[Coverage](#)[BAC End Pairs](#)[Fosmid End Pairs](#)[GC Percent](#)[WSSD](#)[Duplication](#)[Short Match](#)[Restr Enzymes](#)[Blat Sequence](#)

Phenotype and Disease Associations

[RGD QTL](#)[Locus Variants](#)

Genes and Gene Prediction Tracks

[Known Genes](#)

[CCDS](#)[Vega](#)[Pseudogenes](#)[SGP Genes](#)[RefSeq Genes](#)[Ensembl Genes](#)[Geneid Genes](#)[Other RefSeq](#)[AceView Genes](#)[Genscan Genes](#)[MGC Genes](#)[ECgene Genes](#)[Exoniphy](#)

Display mode: full

Filter: ☐ red ☐ green ☐ blue ☐ exclude ☒ include **Combination Logic:** ☐ and ☒ or

accession:

BE256422

author:

library:

tissue:

cell:

keyword:

gene:

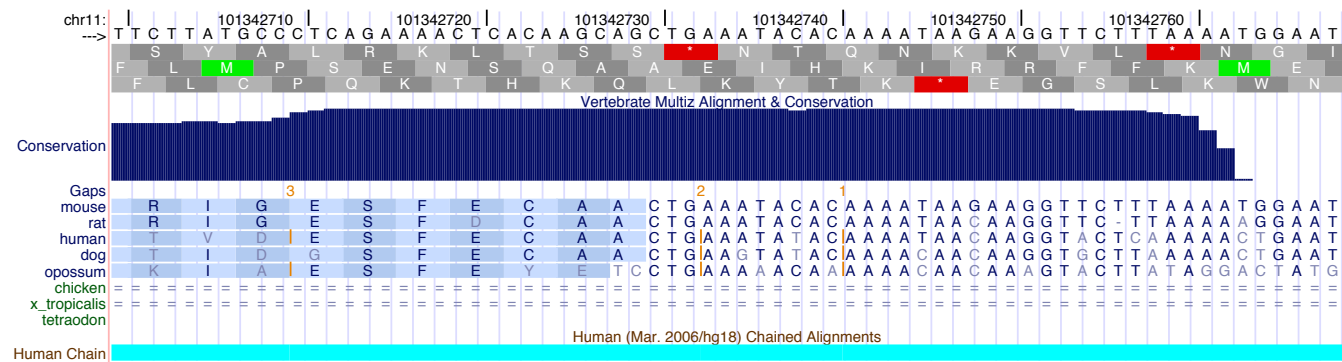
product:

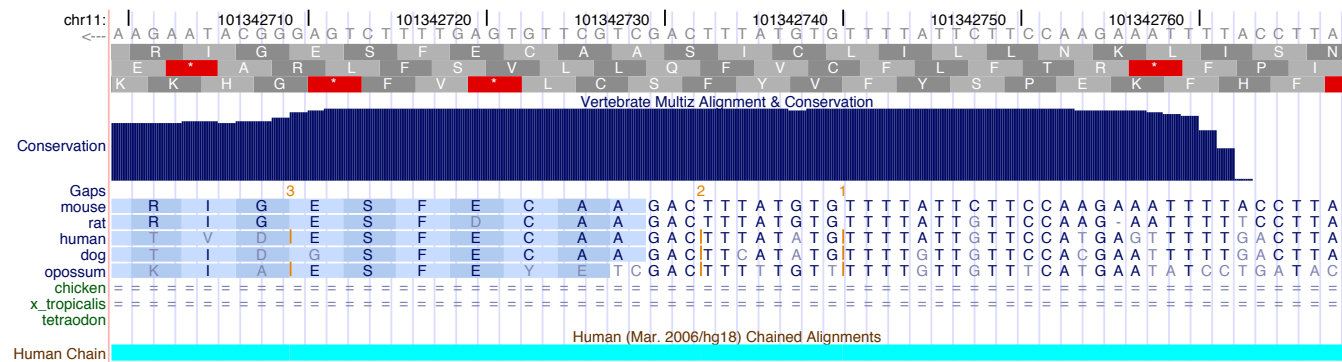
description:

Color track by bases: different mRNA bases

jump	clear	size 31 bp.	configure
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[illegible]





Human Gene HBB Description and Page Index

Description: beta globin

Alternate Gene Symbols: AF117710, AF181989, AF349114, AY136510, AY509193, BC007075, CR536530, M25113, V00497

CCDS: [CCDS7753.1](#)

Representative Refseq: [NM 000518](#) **Protein:** [P68871](#) (aka HBB_HUMAN)

RefSeq Summary: The alpha (HBA) and beta (HBB) loci determine the structure of the 2 types of polypeptide chains in adult hemoglobin, Hb A. The normal adult hemoglobin tetramer consists of two alpha chains and two beta chains. Mutant beta globin causes sickle cell anemia. Absence of beta chain causes beta-zero-thalassemia. Reduced amounts of detectable beta globin causes beta-plus-thalassemia. The order of the genes in the beta-globin cluster is 5'-epsilon -- gamma-G -- gamma-A -- delta -- beta--3'. Publication Note: This RefSeq record includes a subset of the publications that are available for this gene. Please see the Entrez Gene record to access additional publications.

Position: chr11:5203272-5204877

Strand: -

Genomic Size: 1606

Exon Count: 3

Page Index	Quick Links	UniProt Comments	Sequence	Microarray	RNA Structure
Protein Structure	Other Species	GO Annotations	mRNA Descriptions	Pathways	Methods

Quick Links to Tools and Databases

Gene Sorter	Genome Browser	Proteome Browser	Table Schema	VisiGene	Allen Brain Atlas
CGAP	Ensembl	Entrez Gene	ExonPrimer	GeneCards	GeneLynx
H-INV	HGNC	HPRD	Jackson Labs	OMIM	PubMed
Stanford SOURCE	UniProt	Gepis Tissue			

Comments and Description Text from UniProt (Swiss-Prot/TrEMBL)

ID: [HBB_HUMAN](#)

DESCRIPTION: Hemoglobin beta subunit (Hemoglobin beta chain) (Beta-globin).

FUNCTION: Involved in oxygen transport from the lung to the various peripheral tissues.

SUBUNIT: Heterotetramer of two alpha chains and two beta chains in adult hemoglobin A (HbA).

TISSUE SPECIFICITY: Red blood cells.

171 images match



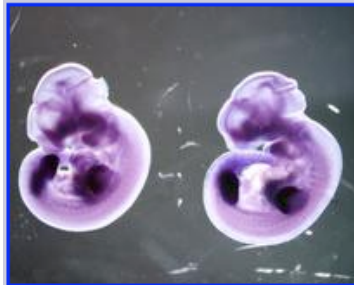
Mouse Hoxa9



Mouse Hoxa10



Mouse Hoxa10



Mouse Hoxa11



source: [Mahoney Lab](#) source: [MGI](#) Reference: [Mouse Brain Organization Revealed Through Direct Genome-Scale TF Expression Analysis.](#)

Year: 2004 Contributors: Gray P.A.,Fu H.,Luo P.,Zhao Q.,Yu J.,Ferrari A.,Tenzen T.,Yuk D.I.,Tsung E.F.,Cai Z.,Alberta J.A.,Cheng L.P.,Liu Y.,Stenman J.M.,Valerius M.T.,Billings N.,Kim H.A.,Greenberg M.E.,McMahon A.P.,Rowitch D.H.,Stiles C.D.,Ma Q.,

Gene: [Hoxa9](#) Probe: [RNA from primers](#) GenBank: [AB005458](#)

Organism: Mus musculus Sex: n/a Strain: C57BL Genotype: wild type

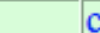
Stage: 10.5 day old embryo (Theiler 17) Body Part: whole

Expression: central nervous system(0.17) Section Type: whole mount

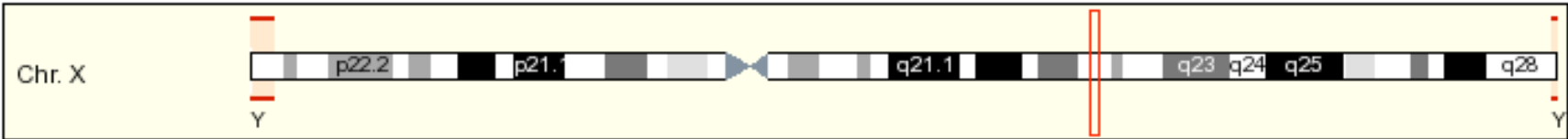
Acknowledgements: Thanks to Paul Gray for transferring the images.

genome assembly search

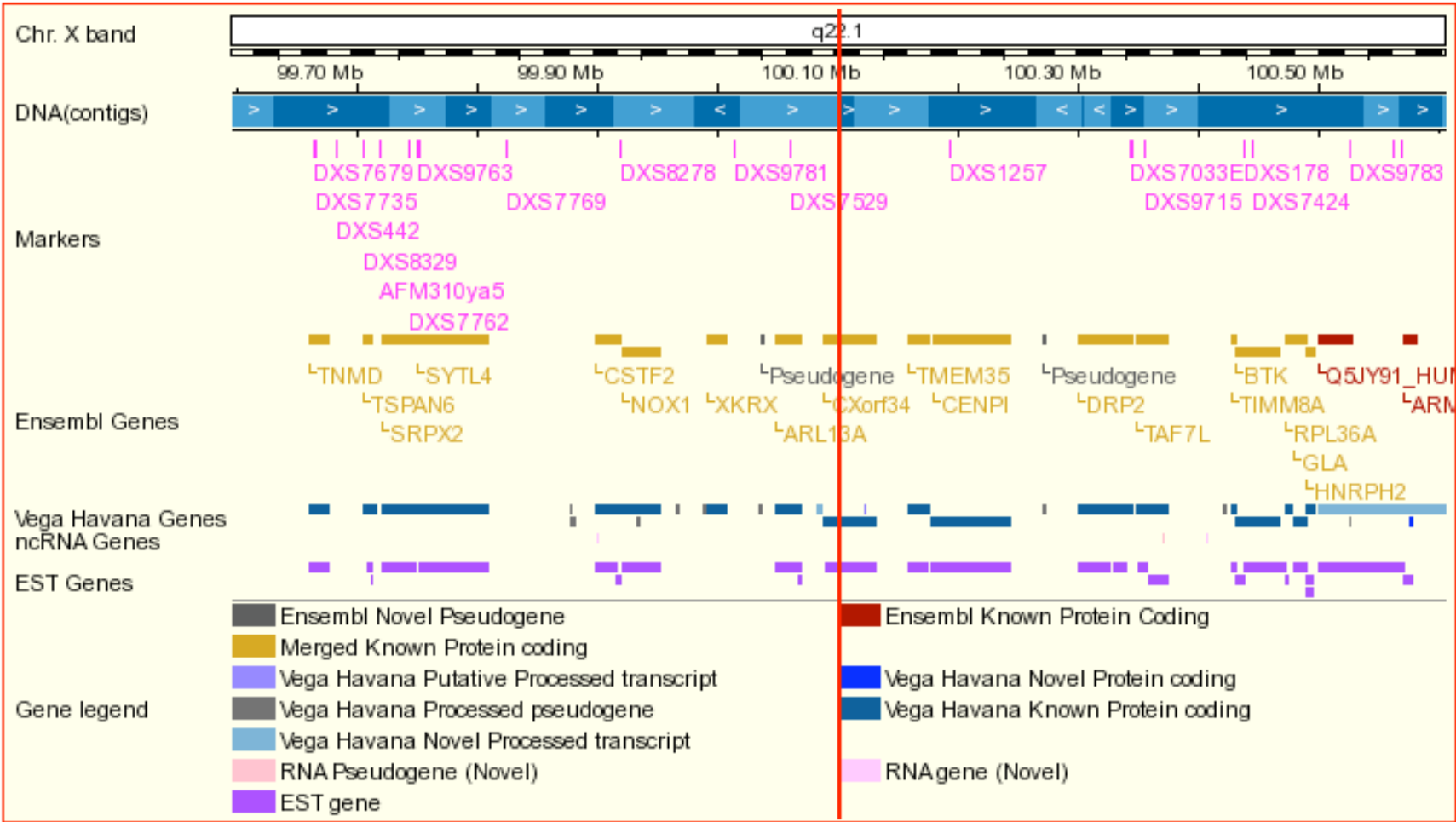
sort by filter (now off) display output

#	Name	fetal brain	whole brain	amygdala	thymus	bone marrow	PB-CD4+ Tcells	skin	adipocyte	pancreatic islets	heart	lung	kidney	liver	ovary	testis	BLASTP E-Value	Genome Position	Description
1	CXorf34																0	chrX 100,091,954	hypothetical protein LOC79979
2	CR592601																1e-75	chr22 18,476,857	HpaII tiny fragments locus 9c protein.

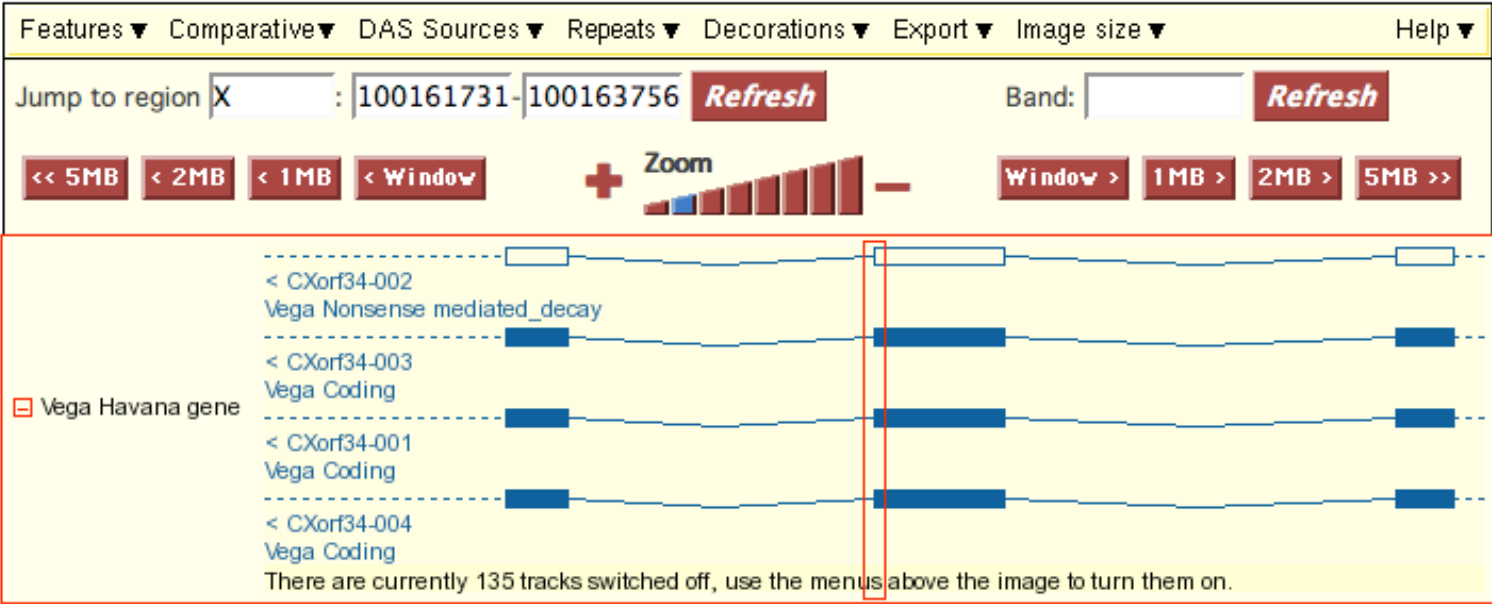
Chromosome X



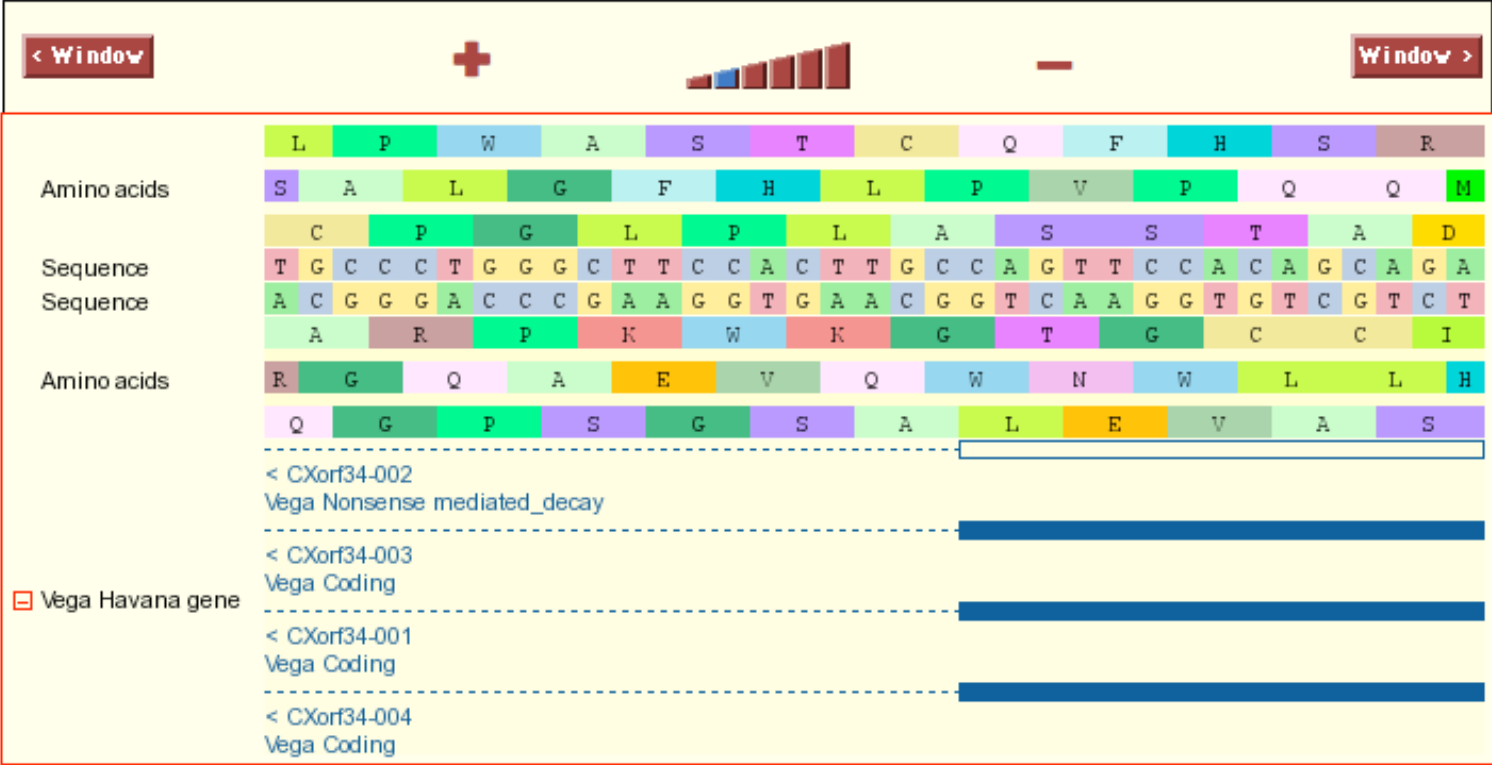
Overview

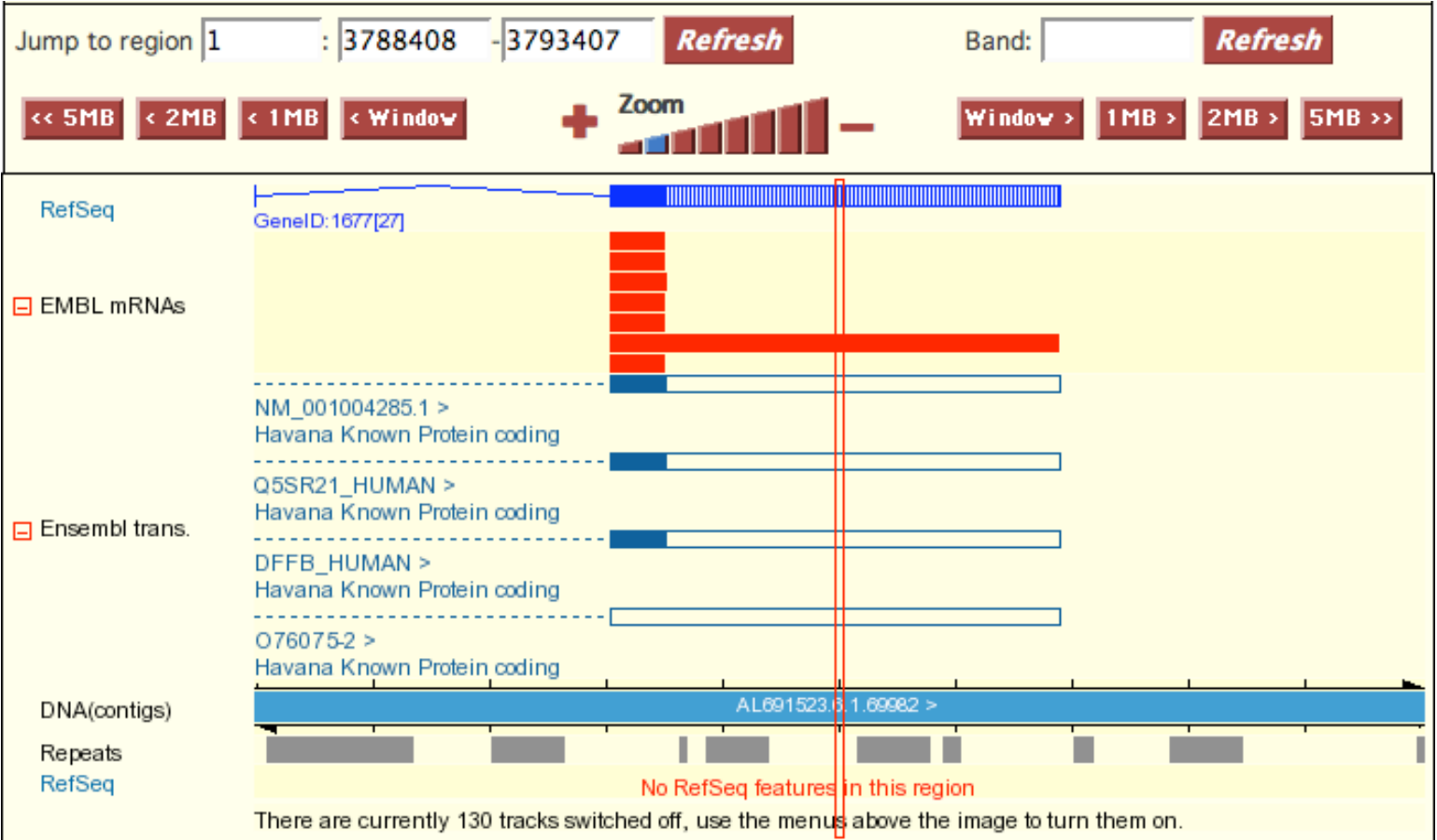


Detailed view

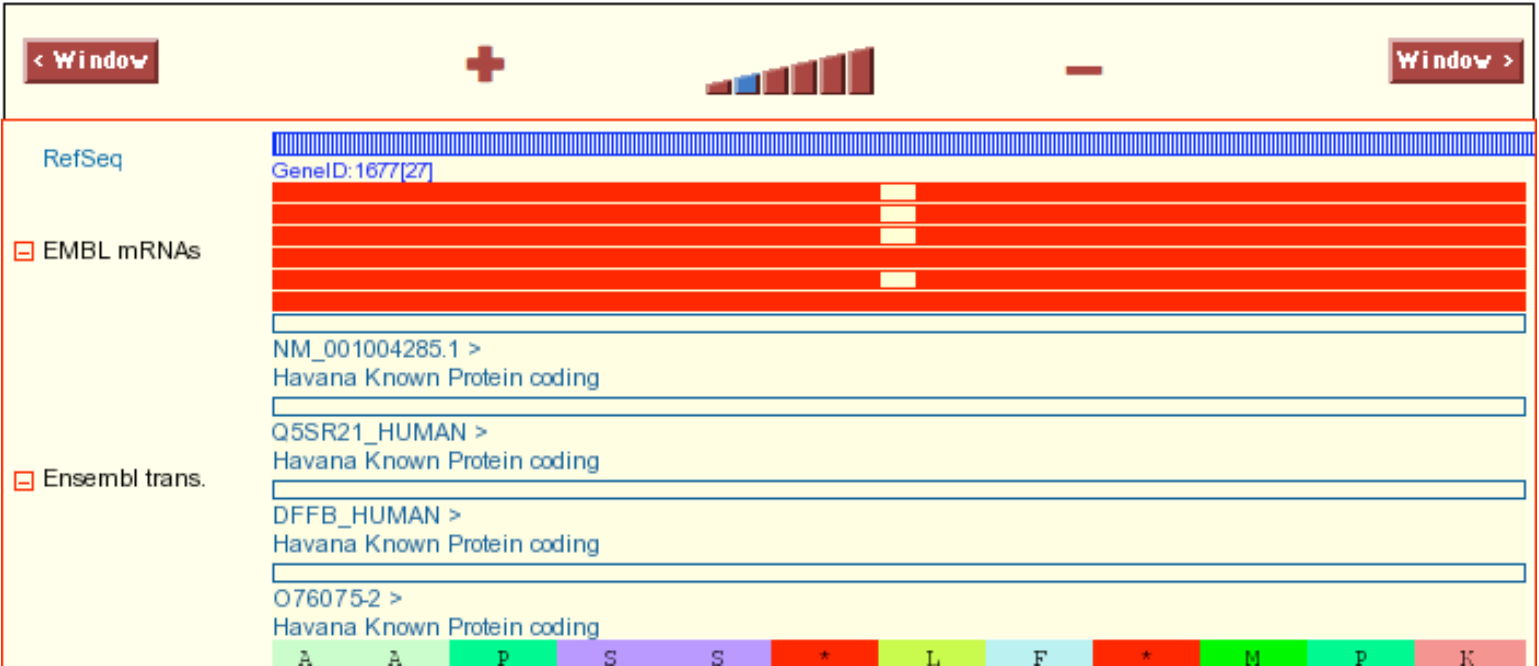


Basepair view





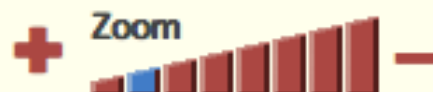
Basepair view



Jump to region X : 100161153-100163178 **Refresh**

Band: **Refresh**

<< 5MB < 2MB < 1MB < Window



Window > 1MB > 2MB > 5MB >>

OMIM Morbid map

No OMIM Morbid map features in this region

☐ EST (ex.)

☐ EMBL mRNAs

DNA(contigs)

☐ Human RefSeqs

☐ EMBL mRNAs

☐ EST (ex.)

☐ Human cDNAs

SNPs

Repeats

CXorf34snp

OMIM Morbid map

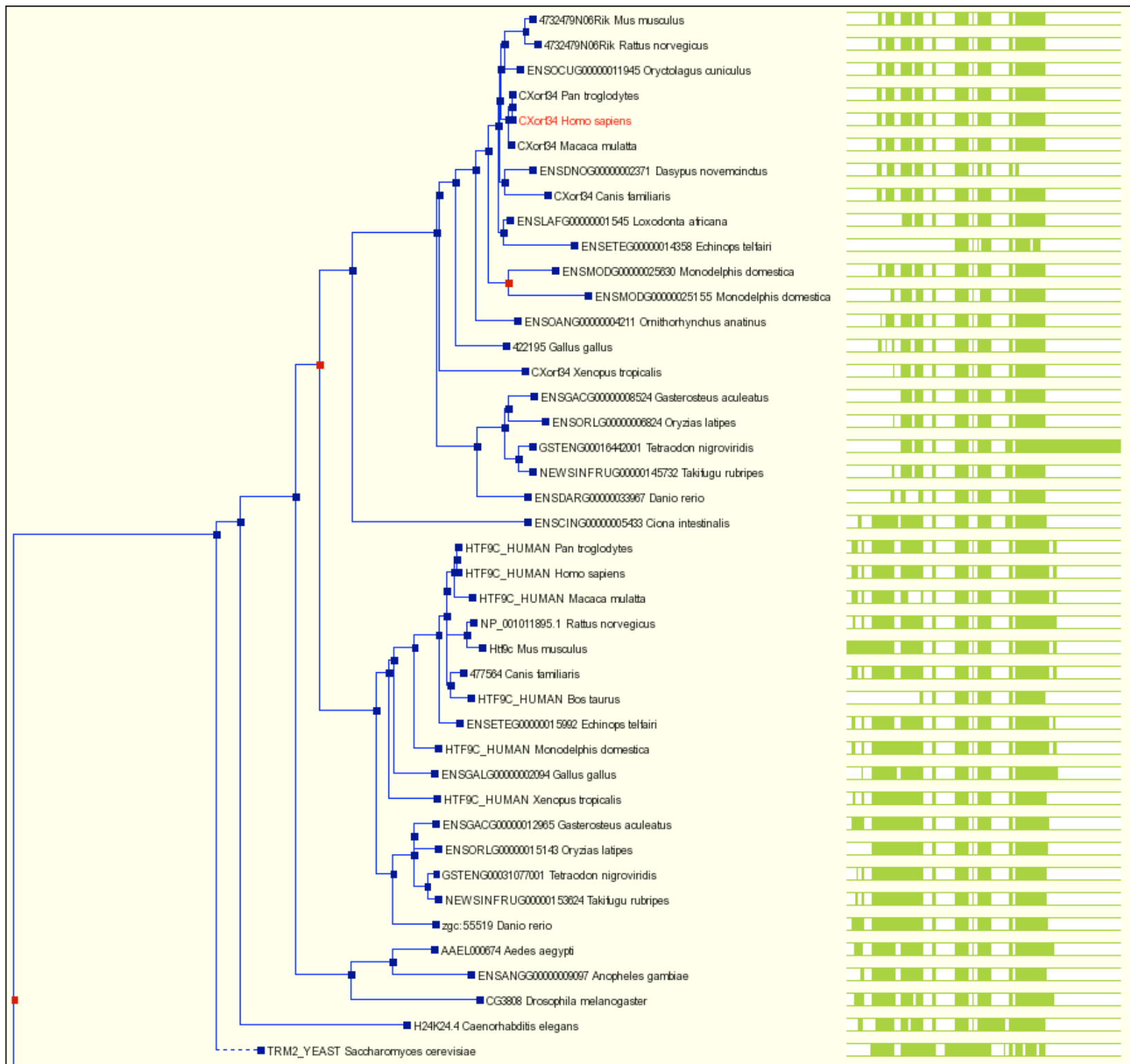
SegDup WashU

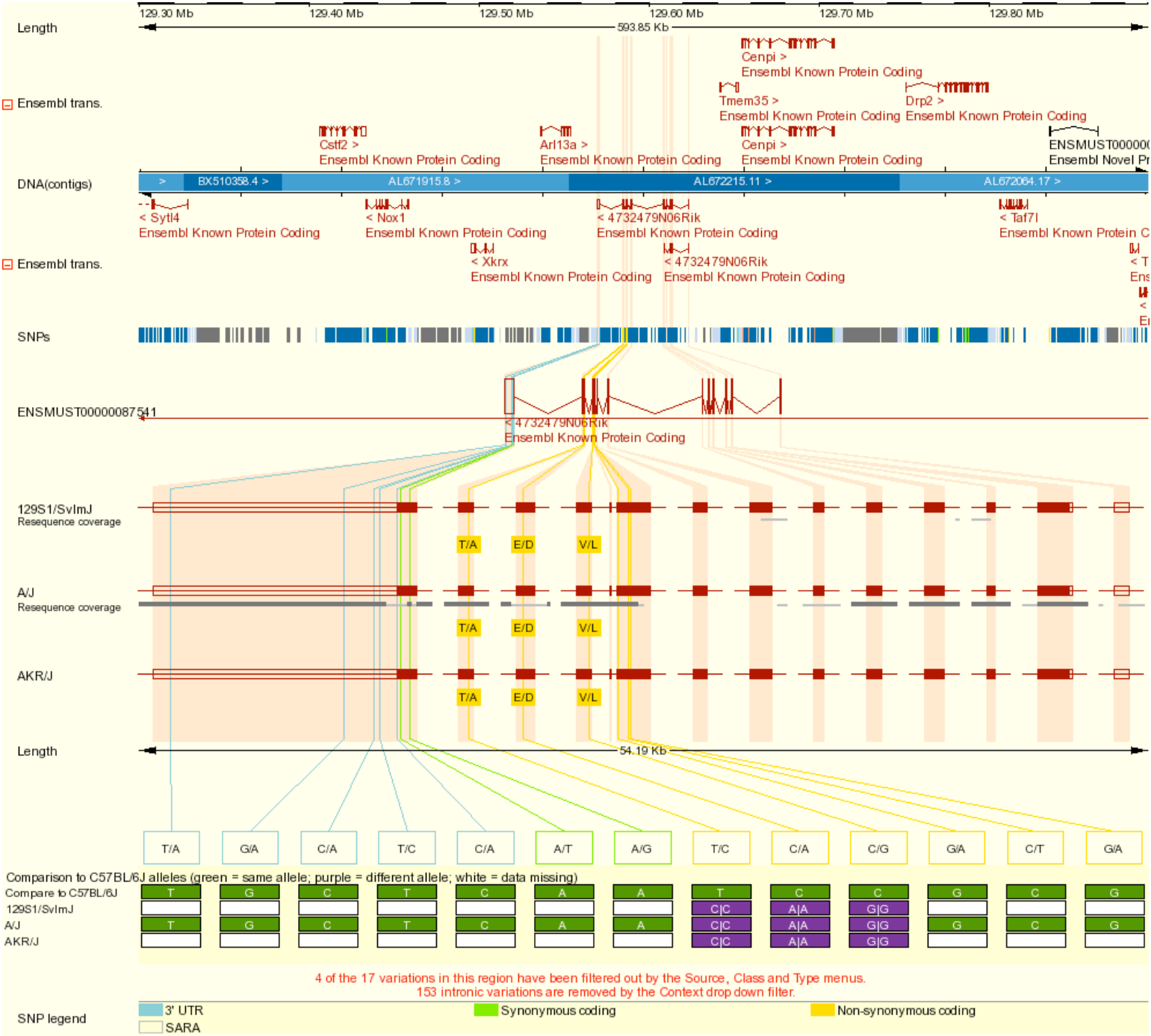
297985.10.182517 >

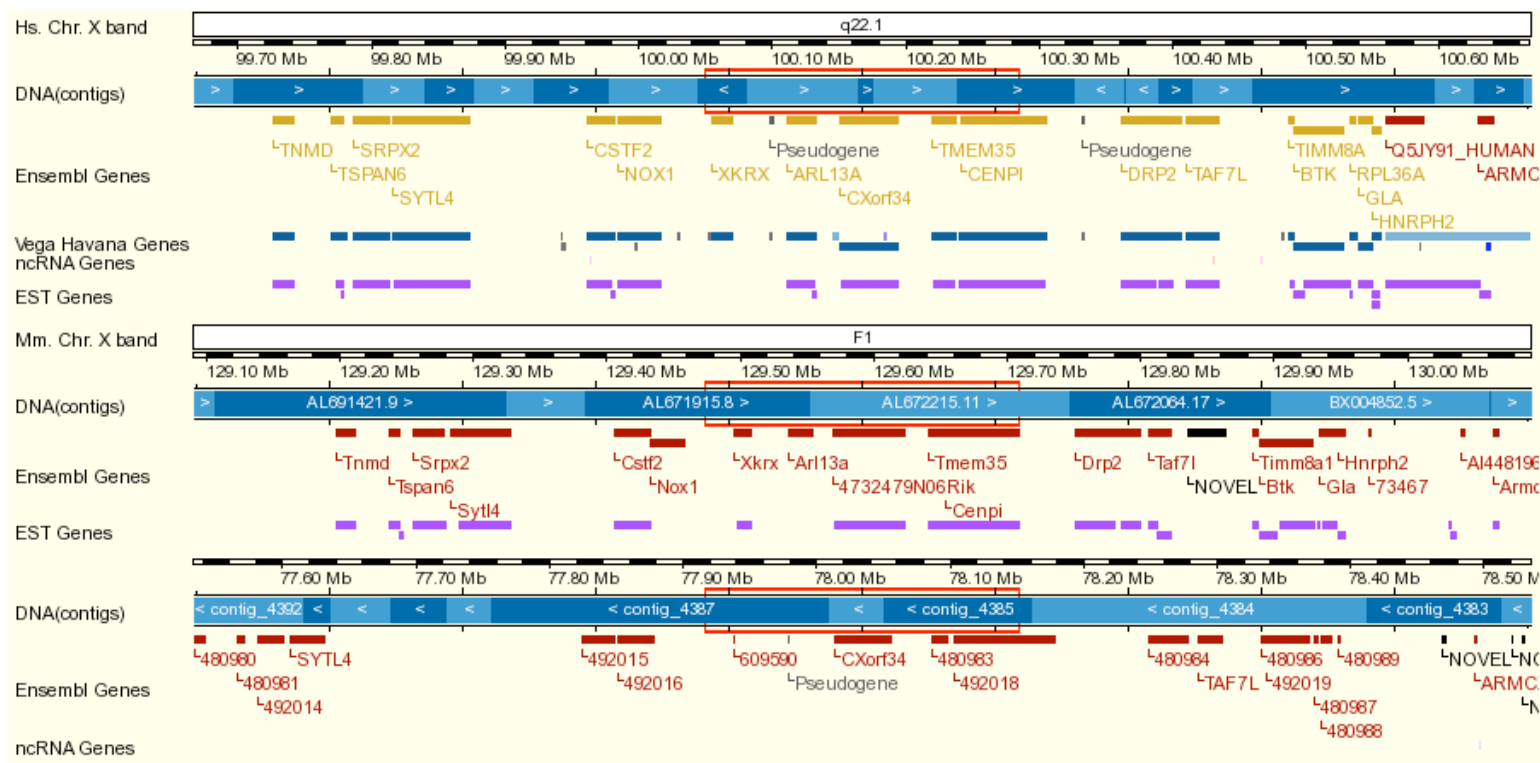
CXorf34Snp

No OMIM Morbid map features in this region

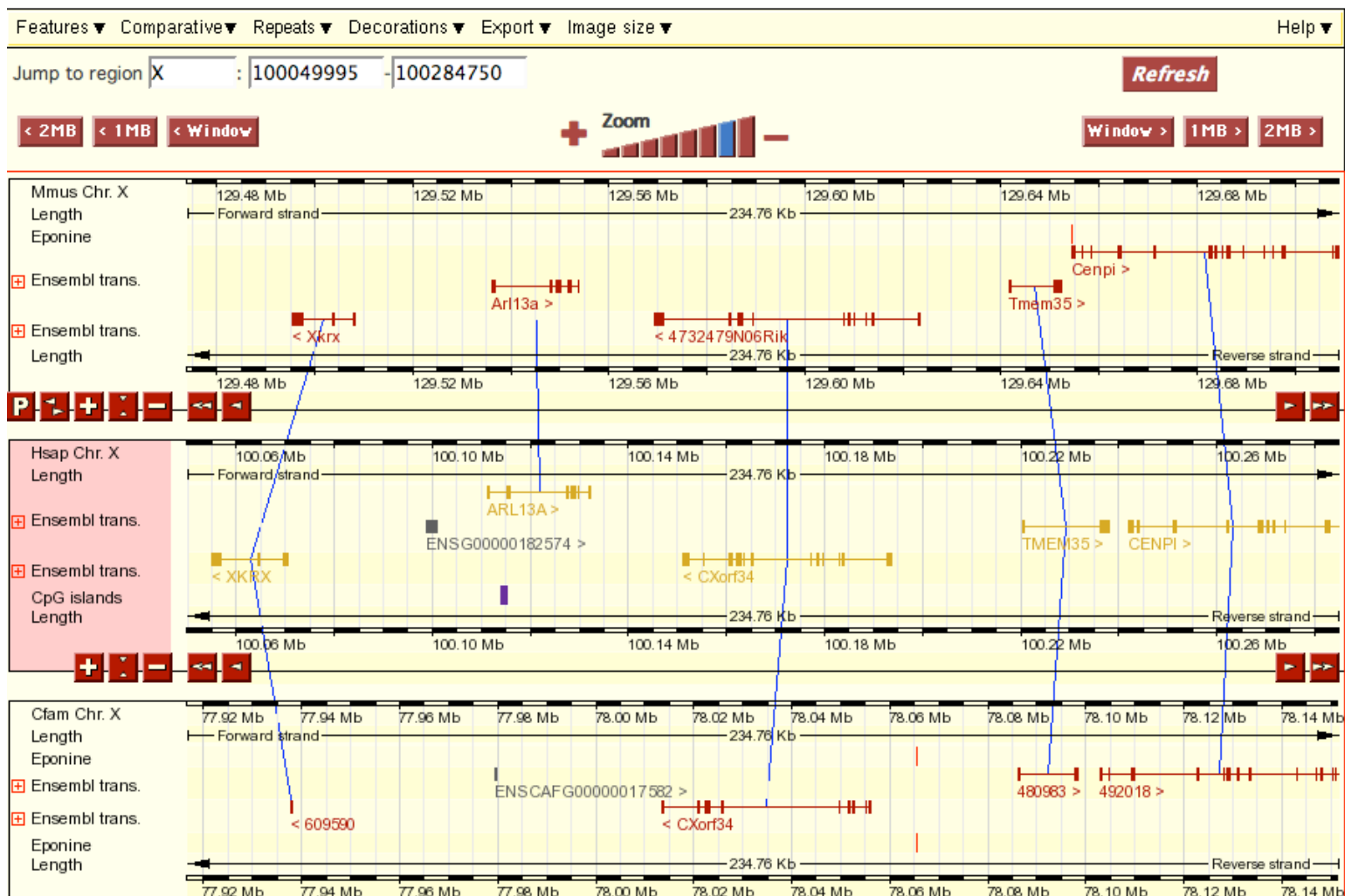
No SegDup WashU features in this region







ailed View



Your Ensembl

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Help & Documentation

-  [Table of Contents](#)
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-  [About Ensembl](#)
-  [Downloading data](#)
-  [Displaying your own data](#)
-  [Ensembl software](#)

Select a species

-  [Mammals](#)

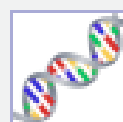
Search Ensembl

Search: for

Go

e.g. **mouse chromosome 2** or **X:10000..20000** or **human gene BRCA2**

Ensembl tools



Start a sequence search →
Search Ensembl for nucleotide and peptide sequences with BLAST and SSAHA.



Mine Ensembl with BioMart →
Cross-reference Ensembl datasets with BioMart, a powerful data-mining tool.

Ensembl 42

[Prel species](#)

Popular genomes



Homo sapiens
NCBI 36 | [Vega](#)



Mus musculus
NCBI m36 | [Vega](#)



Danio rerio
NCBI dm3 | [Vega](#)

Enter the Query Sequence

Either Paste sequences (max 30 sequences) in FASTA or plain text:

GTCCTTGGGATTGAATTGTTGGAGCAGGCACTGGAGGATGCAAGATGGACTGCAGCCTT

Or Upload a file containing one or more FASTA sequences

Browse...

Or Enter a sequence ID or accession (EMBL, UniProt, RefSeq)

Retrieve

Or Enter an existing ticket ID:

Retrieve

- ☒ dna queries
☐ peptide queries

Select the databases to search against

Select species:

Use 'ctrl' key to select multiple species

Gallus_gallus
Gasterosteus_aculeatus
Homo_sapiens

- ☒ dna database
☐ peptide database

Genomic sequence

Known Consensus CDS Peptides (CCDS peptides)

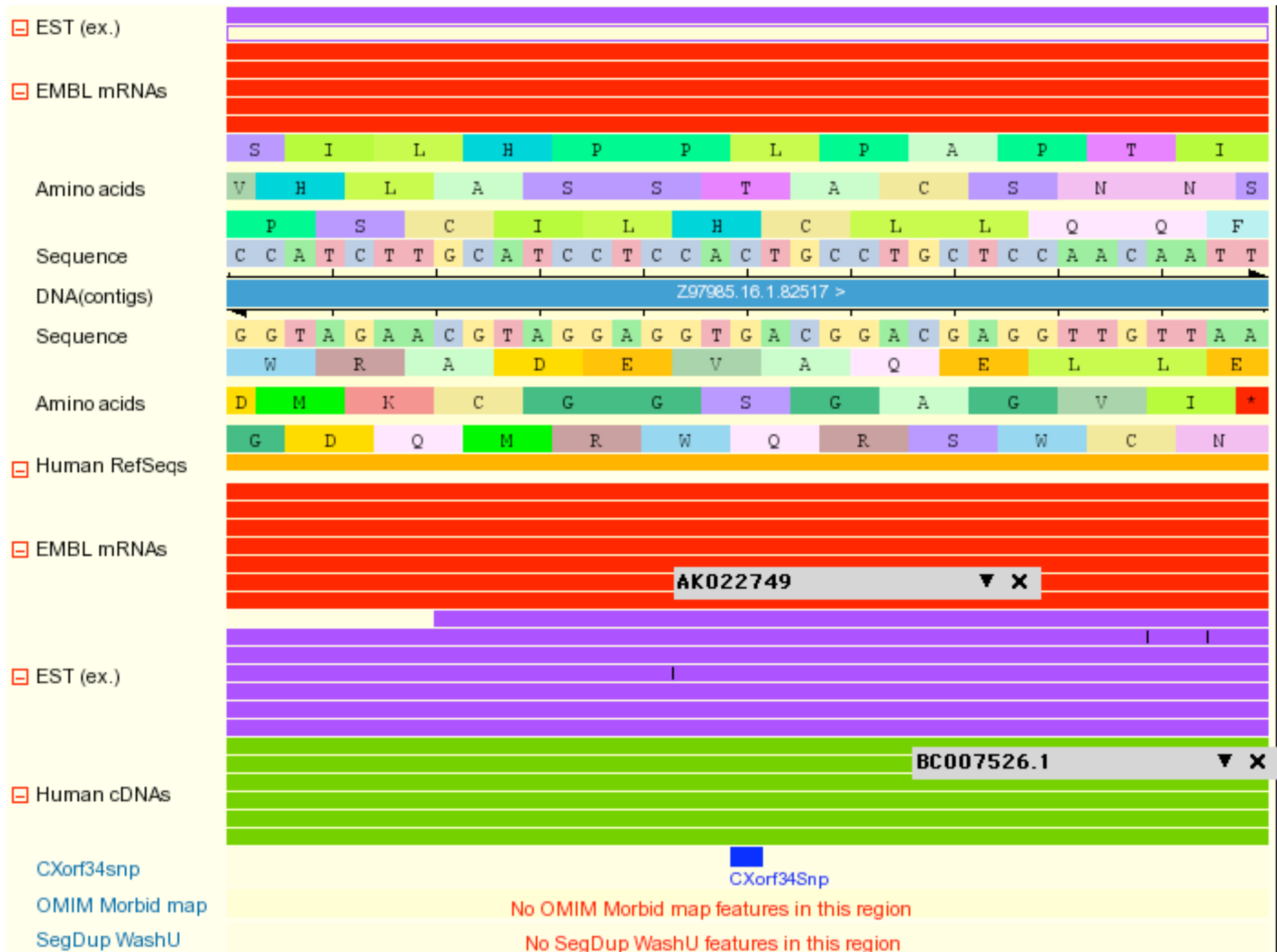
Select the Search Tool

BLASTN
SSAHA2
TBLASTX

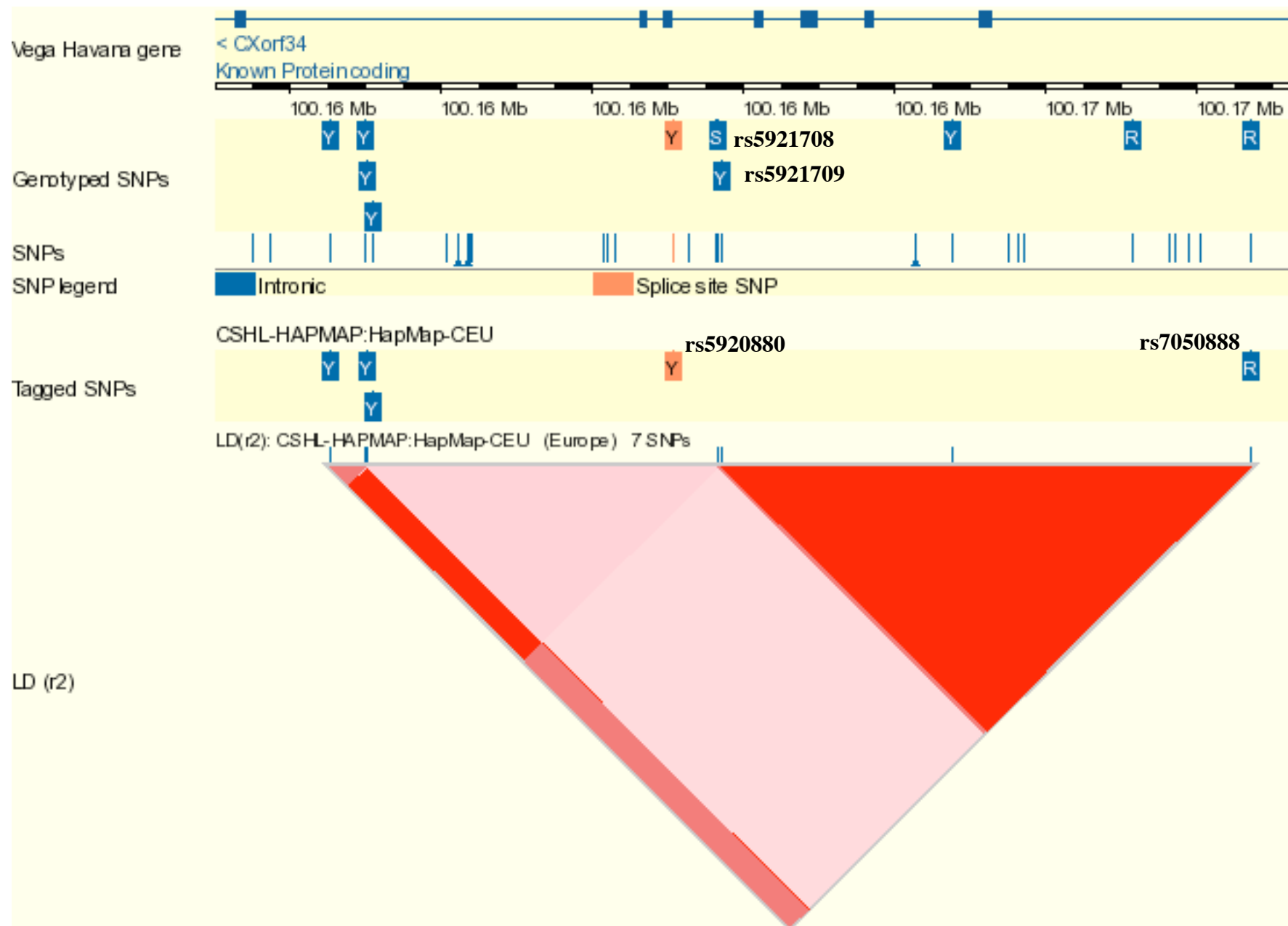
configure ▶ RUN ▶

Search sensitivity:

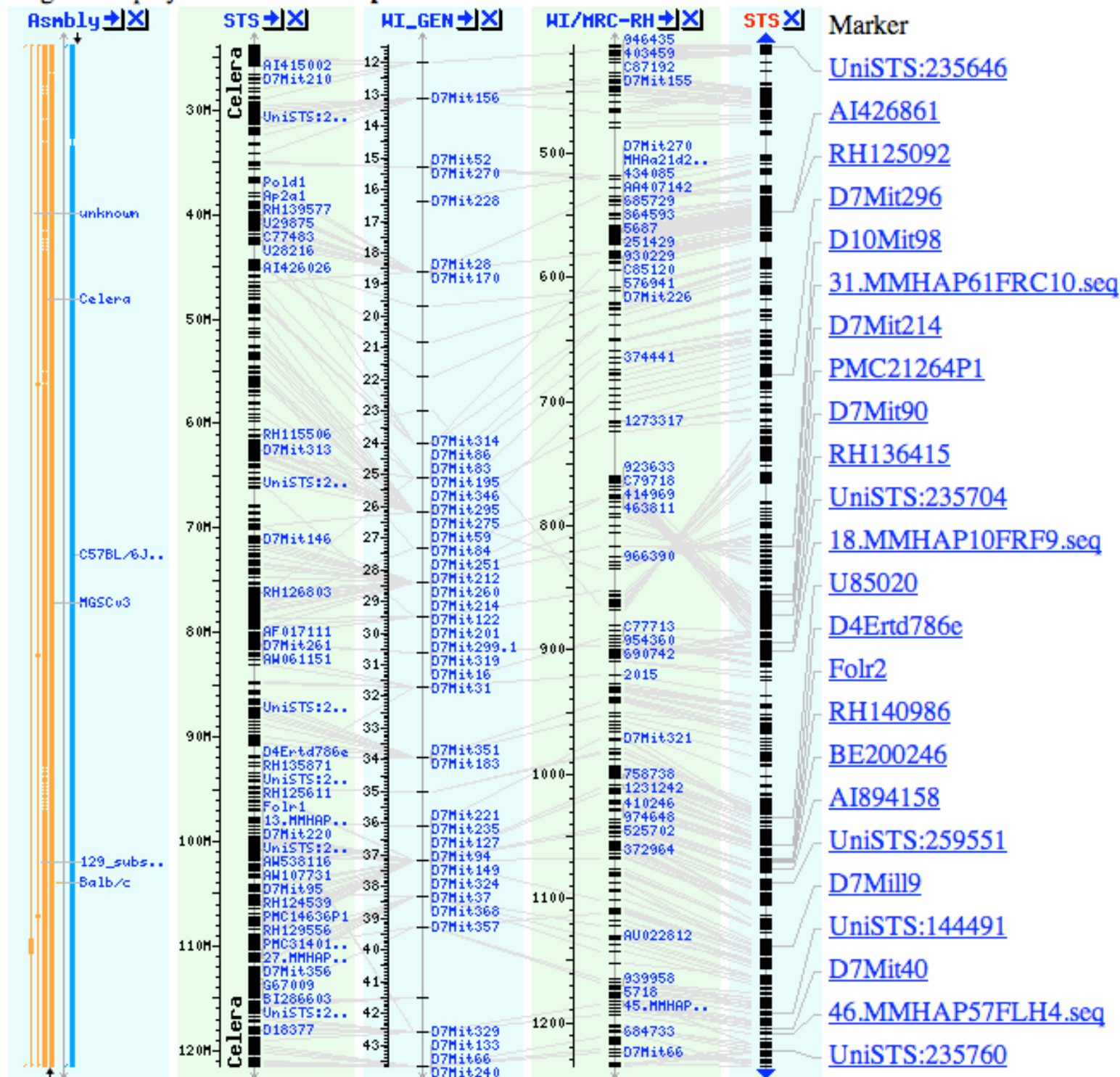
Near-exact matches



Homo sapiens	A	T	C	T	T	G	C	A	T	C	C	T	C	C	A	C	T	G	C	C	T
Mus musculus	A	C	C	T	G	G	C	A	T	C	C	T	C	T	A	C	T	G	C	C	T
Canis familiaris	A	C	C	T	G	G	C	A	T	C	C	T	C	T	A	C	T	G	C	C	T
Monodelphis do ...	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rattus norvegicus	A	C	C	T	G	G	C	A	T	C	C	T	C	T	A	C	T	G	C	C	T
Bos taurus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gallus gallus	A	C	C	T	G	G	C	A	T	C	C	T	C	T	A	T	T	G	C	T	T
Pan troglodytes	a	t	c	t	t	g	c	a	t	c	c	t	c	c	a	c	t	g	c	c	t
Macaca mulatta	A	T	C	T	T	G	C	A	T	C	C	T	C	C	A	C	T	G	C	C	T



Region Displayed: 30M-120M bp





NCBI Map Viewer

Genomic Biology | Genome | Taxonomy | Entrez | BLAST | Help

Search

for

Click on the organism name to go to the genome view

☐ **Vertebrates**

Mammals

- [BLAST](#) *Bos taurus* (cow) Build 3.1
- [BLAST](#) *Bos taurus* (cow) Build 2.1
- [BLAST](#) *Canis familiaris* (dog)
- [BLAST](#) *Felis catus* (cat)
- [BLAST](#) *Homo sapiens* (human) Build 36
- [BLAST](#) *Homo sapiens* (human) Build 35
- [BLAST](#) *Macaca mulatta* (rhesus macaque)
- [BLAST](#) *Mus musculus* (mouse) Build 36
- [BLAST](#) *Mus musculus* (mouse) Build 35
- [BLAST](#) *Ovis aries* (sheep)
- [BLAST](#) *Pan troglodytes* (chimpanzee)
- [BLAST](#) *Rattus norvegicus* (rat)
- [BLAST](#) *Sus scrofa* (pig)

☐ **Plants**

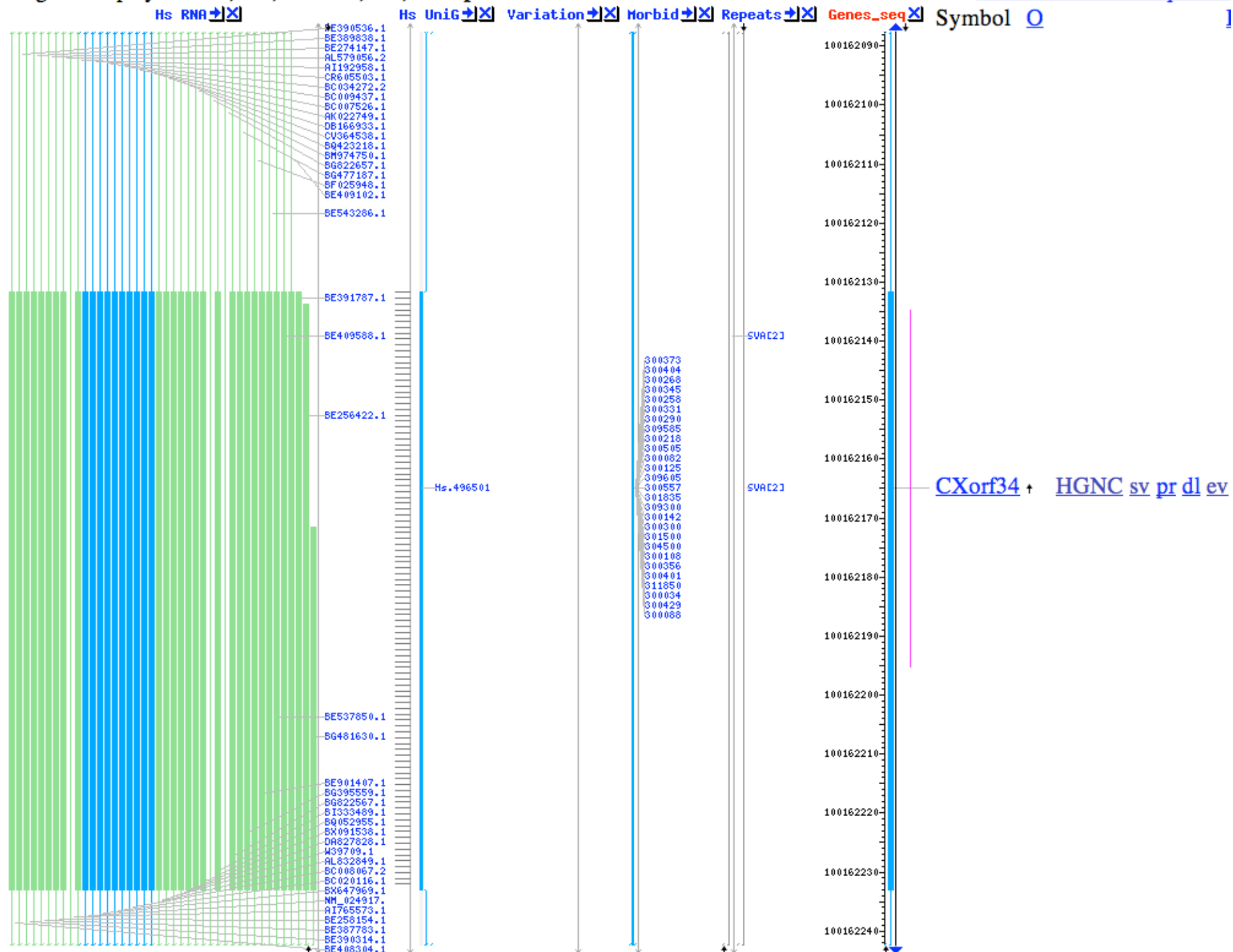
[BLAST](#)

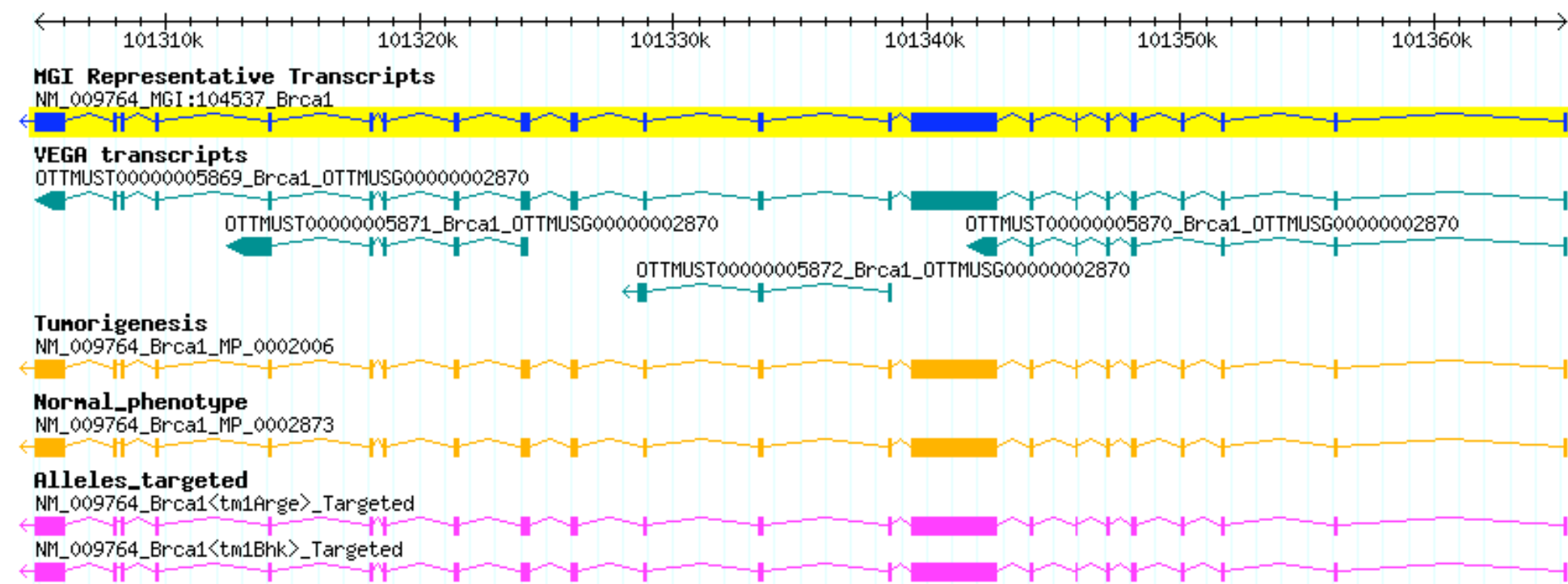
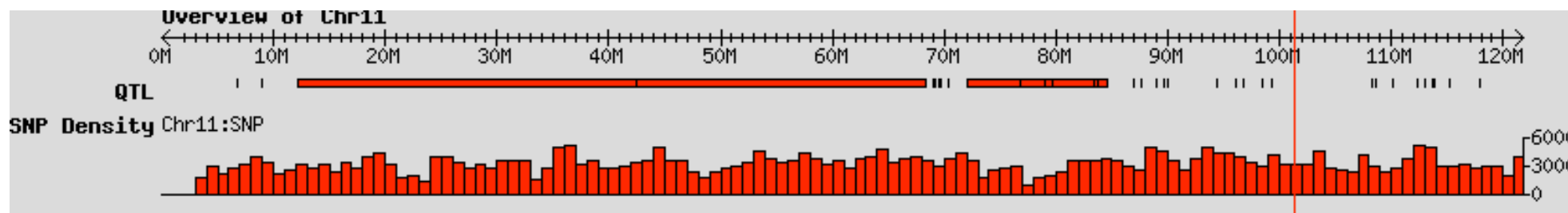
[Search all plant maps](#)

- [BLAST](#) *Aegilops tauschii*
- [BLAST](#) *Aegilops umbellulata*
- [BLAST](#) *Allium cepa* (onion)
- [BLAST](#) *Arabidopsis thaliana* (thale cress)
- [BLAST](#) *Avena sativa* (oat)
- [BLAST](#) *Beta vulgaris* (beet)
- [BLAST](#) *Brassica juncea* (Indian mustard)
- [BLAST](#) *Brassica napus* (oilseed rape)
- [BLAST](#) *Brassica nigra* (black mustard)
- [BLAST](#) *Brassica oleracea*
- [BLAST](#) *Brassica rapa* (field mustard)
- [BLAST](#) *Capsicum annuum*
- [BLAST](#) *Eragrostis tef* (tef)
- [BLAST](#) *Glycine max* (soybean)
- [BLAST](#) *Hordeum vulgare* (barley)

Region Displayed: 100,162,088-100,162,242 bp

[Download/View Sequence](#)





Phenotypic Allele Detail

Your Input Welcome

Allele	Symbol: Brca1^{tm1Arge} Name: targeted mutation 1, Argiris Efstratiadis ID: MGI:1930613																								
Synonyms	Brca1 ^{ex2}																								
Allele details	Allele Type: Targeted (knock-out) Strain of Origin: 129S/SvEv-Gpi1 ^c ES Cell Line: CCE/EK.CCE ES Cell Line Strain: 129S/SvEv-Gpi1 ^c Mutation: Disruption caused by insertion of vector Replacement of exon 2, encoding part of the RING finger motif, and part of the flanking introns with a neomycin cassette. (J:40594) Gene Expression in Brca1^{tm1Arge} mutants (3 assay results) International Mouse Strain Resource: (Search for IMSR strains with Brca1 mutations) References and Additional Notes: (See Below)																								
Gene information	Symbol: Brca1 Name: breast cancer 1 Chromosome: 11 Genetic Position: 60.5 cM, cytoband D Genome Coordinates: Chr11:101304854-101368045 bp, - strand (From VEGA annotation of NCBI Build 36) Human Ortholog: BRCA1																								
Phenotypes	Phenotypic details for all genotypes that include at least one Brca1^{tm1Arge} allele <table><tr><th rowspan="2">Phenotype</th><th colspan="2">Genotype</th></tr><tr><th>Allelic Composition</th><th>Genetic Background</th></tr><tr><td>Go To</td><td>Brca1^{tm1Arge}/Brca1^{tm1Arge}</td><td>Involves: 129S/SvEv * C57BL/6</td></tr><tr><td>Go To</td><td>Brca1^{tm1Arge}/Brca1⁺</td><td>Involves: 129S/SvEv * C57BL/6</td></tr><tr><td>Go To</td><td>Brca1^{tm1Arge}/Brca1^{tm1Arge} Trp53^{tm1Tyi}/Trp53^{tm1Tyi}</td><td>Involves: 129S/SvEv * 129S2/SvPas * C57BL/6</td></tr><tr><td>Go To</td><td>Brca1^{tm1Arge}/Brca1^{tm1Arge} Brca2^{tm1Arge}/Brca2^{tm1Arge}</td><td>Involves: 129S/SvEv * C57BL/6</td></tr><tr><td>Go To</td><td>Bard1^{tm1Thl}/Bard1^{tm1Thl} Brca1^{tm1Arge}/Brca1^{tm1Arge}</td><td>Involves: 129S/SvEv * 129S1/Sv</td></tr></table> <table><tr><th>Allelic Composition</th><th>Genetic Background</th></tr><tr><td>Brca1^{tm1Arge}/Brca1^{tm1Arge}</td><td>Involves: 129S/SvEv * C57BL/6</td></tr></table> lethality/embryonic-perinatal embryonic lethality before turning of embryo (J:40594) ○ E5.5 -E8.5 embryogenesis absent mesoderm (J:40594) abnormal embryonic tissue morphology (J:40594) ○ many empty decidua found; some decidua contained only giant cells and extraembryonic membranes, and others also contained some embryonic remnants abnormal egg cylinder morphology (J:40594) ○ at e5.5, embryonic tissue, when present, appears as small and short egg cylinders compared to controls; no clear division between embryonic and extraembryonic tissue is apparent ○ at e6.5, embryos, when present, are half the size of controls and were two-layered cylinders ○ at e6.5, mutants lack amniotic folds and the primary giant cells are prominent and large ○ at e7.5, embryos are small egg cylinders without amniotic folds and embryonic mesoderm is not visible; some extraembryonic tissue development appears normal ○ at E8.5, remaining embryos are variable in shape and achieved developmental stage; some consist of only extraembryonic tissue, some have rudimentary embryonic epithelium with no mesoderm, while others appear to have developed further to the heart beat stage, although the embryo is severely reduced in size ○ at E9.5, remaining embryos are variable in shape and achieved developmental stage absent amniotic folds (J:40594) embryonic growth retardation (J:40594)	Phenotype	Genotype		Allelic Composition	Genetic Background	Go To	Brca1^{tm1Arge}/Brca1^{tm1Arge}	Involves: 129S/SvEv * C57BL/6	Go To	Brca1^{tm1Arge}/Brca1⁺	Involves: 129S/SvEv * C57BL/6	Go To	Brca1^{tm1Arge}/Brca1^{tm1Arge} Trp53^{tm1Tyi}/Trp53^{tm1Tyi}	Involves: 129S/SvEv * 129S2/SvPas * C57BL/6	Go To	Brca1^{tm1Arge}/Brca1^{tm1Arge} Brca2^{tm1Arge}/Brca2^{tm1Arge}	Involves: 129S/SvEv * C57BL/6	Go To	Bard1^{tm1Thl}/Bard1^{tm1Thl} Brca1^{tm1Arge}/Brca1^{tm1Arge}	Involves: 129S/SvEv * 129S1/Sv	Allelic Composition	Genetic Background	Brca1^{tm1Arge}/Brca1^{tm1Arge}	Involves: 129S/SvEv * C57BL/6
Phenotype	Genotype																								
	Allelic Composition	Genetic Background																							
Go To	Brca1^{tm1Arge}/Brca1^{tm1Arge}	Involves: 129S/SvEv * C57BL/6																							
Go To	Brca1^{tm1Arge}/Brca1⁺	Involves: 129S/SvEv * C57BL/6																							
Go To	Brca1^{tm1Arge}/Brca1^{tm1Arge} Trp53^{tm1Tyi}/Trp53^{tm1Tyi}	Involves: 129S/SvEv * 129S2/SvPas * C57BL/6																							
Go To	Brca1^{tm1Arge}/Brca1^{tm1Arge} Brca2^{tm1Arge}/Brca2^{tm1Arge}	Involves: 129S/SvEv * C57BL/6																							
Go To	Bard1^{tm1Thl}/Bard1^{tm1Thl} Brca1^{tm1Arge}/Brca1^{tm1Arge}	Involves: 129S/SvEv * 129S1/Sv																							
Allelic Composition	Genetic Background																								
Brca1^{tm1Arge}/Brca1^{tm1Arge}	Involves: 129S/SvEv * C57BL/6																								

» **Dataset:**

Homo sapiens genes
(NCBI36)

» **Attributes** (Features)

Ensembl Gene ID
Ensembl Transcript ID
RefSeq DNA ID
Chromosome Name
Start Position (bp)
End Position (bp)
Strand

» **Filters**

Refseq DNA ID(s): [ID-list
specified]

» **Dataset:**

[None Selected]

- ☒ **Features** ☐ **SNPs**
☐ **Structures** ☐ **Sequences**

⊞ **REGION:**

⊞ **GENE:**

Ensembl Attributes

- | | |
|---|---|
| ☒ Ensembl Gene ID | ☐ Ensembl Peptide length |
| ☒ Ensembl Transcript ID | ☐ Transcript count |
| ☐ Ensembl Peptide ID | ☐ % GC content |
| ☐ External Gene ID | ☐ Description |
| ☐ External Gene DB | ☐ Biotype |
| ☐ Ensembl CDS length | ☐ Source |
| ☐ Ensembl cDNA length | ☐ Status |

GO Attributes

- | | |
|---|---|
| ☐ GO ID | ☐ GO evidence code |
| ☐ GO description | |

External References (max 3)

- | | |
|--------------------------------------|--|
| ☐ CCDS ID | ☐ RefSeq Predicted DNA ID |
| ☐ Codelink ID | ☐ RefSeq Peptide ID |
| ☐ EMBL ID | ☐ Rfam ID |

Ensembl Gene ID	Ensembl Transcript ID	RefSeq DNA ID	Chromosome Name	Start Position (bp)	End Position (bp)	Strand
ENSG00000113525	ENST00000231454	NM_000879	5	131905035	131907113	-1
ENSG00000100296	ENST00000358079	NM_001002879	22	28231868	28279703	-1
ENSG00000172531	ENST00000312989	NM_001008709	11	66922228	66925978	-1
ENSG00000204075	ENST00000372866	NM_001008739	6	42966199	42966504	-1
ENSG00000146955	ENST00000275874	NM_001008749	7	139753916	139772419	1
ENSG00000163806	ENST00000296122	NM_001008779	2	28828118	28926981	1
ENSG00000171649	ENST00000307468	NM_001010879	19	62787320	62795570	1
ENSG00000105146	ENST00000302804	NM_001015879	19	62434240	62438727	1
ENSG00000127241	ENST00000337774	NM_001879	3	188418632	188492446	-1
ENSG00000003402	ENST00000309955	NM_003879	2	201689135	201737246	1

Human Ens. Gene ID	Mouse Ens Gene ID	Mouse chromosome
ENSG00000205070	ENSMUSG00000069038	Y
ENSG00000102144	ENSMUSG00000066632	12
ENSG00000174028	ENSMUSG00000029672	6
ENSG00000123130	ENSMUSG00000047565	15

Table Browser

Use this program to retrieve the data associated with a track in text format, to calculate intersections between tracks, and to retrieve DNA sequence covered by a track. See [Using the Table Browser](#) for a description of the controls in this form. For more complex queries, you may want to use our [public MySQL server](#). Refer to the [Credits](#) page for the list of contributors and usage restrictions associated with these data.

clade:	Vertebrate	genome:	Human	assembly:	Mar. 2006
group:	Variation and Repeats	track:	SNPs		
table:	snp126	describe table schema			
region:	☐ genome ☒ position	chrX:151073054-151383976	lookup		
identifiers (names/accessions):	paste list upload list				
filter:	create				
intersection:	create				
correlation:	create				
output format:	all fields from selected table				
output file:	(leave blank to keep output in browser)				
file type returned:	☒ plain text ☐ gzip compressed				
get output summary/statistics					

Schema for SNPs - Simple Nucleotide Polymorphisms (dbSNP build 126)

Database: hg18 Primary Table: snp126 Row Count: 12,351,941

Description: Polymorphism data from dbSnp database or genotyping arrays

field	example	SQL type	description
bin	585	smallint(5) unsigned	Indexing field to speed chromosome range queries.
chrom	chr10_random	varchar(15)	Reference sequence chromosome or scaffold
chromStart	490	int(10) unsigned	Start position in chrom
chromEnd	491	int(10) unsigned	End position in chrom
name	rs28694205	varchar(15)	Reference SNP identifier or Affy SNP name
score	0	smallint(5) unsigned	Not used
strand	+	enum('?', '+', '-')	Which DNA strand contains the observed alleles
refNCBI	A	blob	Reference genomic from dbSNP
refUCSC	A	blob	Reference genomic from nib lookup
observed	A/T	varchar(255)	The sequences of the observed alleles from rs-fasta files
molType	genomic	enum('unknown', 'genomic', 'cDNA')	Sample type from exemplar ss
class	single	enum('unknown', 'single', 'in-del', 'het', 'microsatellite', 'named', 'no var', 'mixed', 'mnp', 'insertion', 'deletion')	The class of variant (simple, insertion, deletion, range, etc.)
valid	unknown	set('unknown', 'by-cluster', 'by-frequency', 'by-submitter', 'by-2hit-2allele', 'by-hapmap')	The validation status of the SNP
avHet	0	float	The average heterozygosity from all observations
avHetSE	0	float	The Standard Error for the average heterozygosity
func	intron	set('unknown', 'locus', 'coding', 'coding-synon', 'coding-nonsynon', 'untranslated', 'intron', 'splice-site', 'cds-reference')	The functional category of the SNP (coding-synon, coding-nonsynon, intron, etc.)
locType	EXACT	enum('unknown', 'range', 'exact', 'between', 'rangeInsertion', 'rangeSubstitution', 'rangeDeletion')	How the variant affects the reference sequence
weight	1	int(10) unsigned	The quality of the alignment

Filter on Fields from hg18.snp126

bin	is	ignored		
chrom	does	match	*	AND
chromStart	is	ignored		AND
chromEnd	is	ignored		AND
name	does	match	*	AND
score	is	ignored		AND
strand	does	match	*	AND
refNCBI	does	match	*	AND
refUCSC	does	match	*	AND
observed	does	match	*	AND
molType	does	match	*	AND
class	does	match	*	AND
valid	does	include	*	AND
avHet	is	ignored		AND
avHetSE	is	ignored		AND
func	does	include	*	AND
locType	does	match	*	AND
weight	is	ignored		AND

Free-form query:

Lift Genome Annotations

This tool converts genome coordinates and genome annotation files between assemblies. The input data can be pasted into the text box, or uploaded from a file.

Original Genome:

Human ▼

Original Assembly:

May 2004 ▼

New Genome:

Human ▼

New Assembly:

Mar. 2006 ▼

Minimum ratio of bases that must remap:

0.95

Minimum chain size in target:

0

Minimum hit size in query:

0

Allow multiple output regions:

☐

Min ratio of alignment blocks/exons that must map:

1

If thickStart/thickEnd is not mapped, use the closest mapped base: ☐

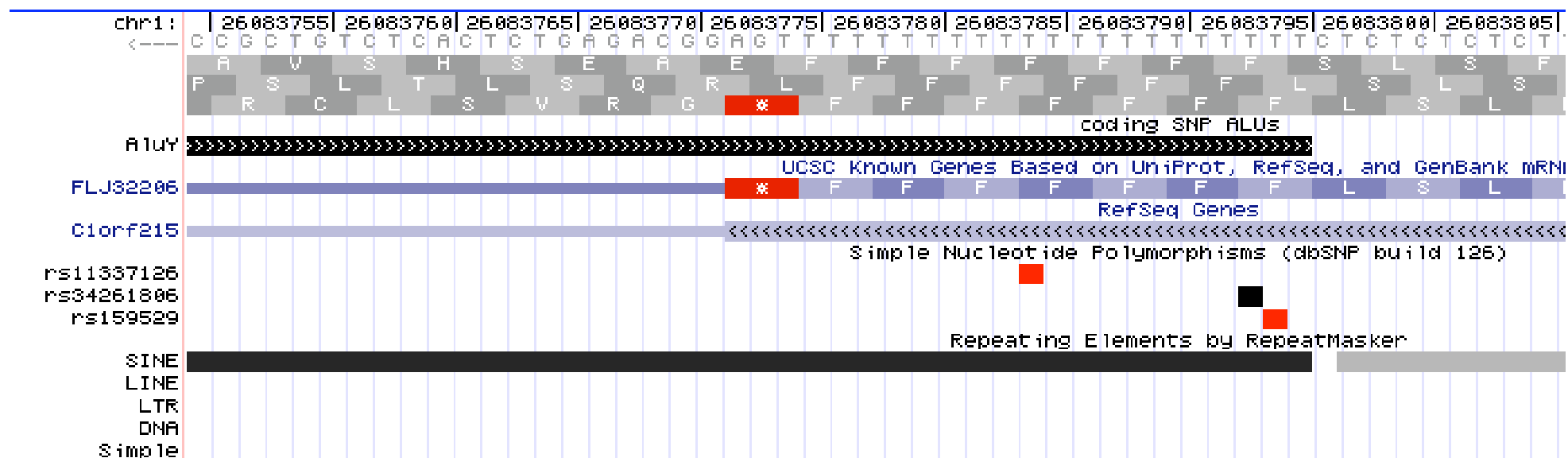
For descriptions of the supported data formats, see the bottom of this page.

Data Format: BED ▼

Paste in data:

```
chr1 164495305 164495447 X93828 0 +
chr1 65011673 65011804 CV354059 0 +
chr1 179175367 179175462 AA906903 0 -
chr1 6289274 6312880 BF920027 0 -
```

Submit



Tools

[Get Data](#)[Get ENCODE Data](#)[ENCODE Tools](#)[Text Manipulation](#)[Filter and Sort](#)[Join, Subtract and Group](#)

- [Join two Queries](#) side by side on a specified field
- [Compare two Queries](#) to find common or distinct rows
- [Subtract Whole Query](#) from another query
- [Group](#) data by a column and perform aggregate operation on other columns.

[Convert Formats](#)[Extract Features](#)[Fetch Sequences](#)[Fetch Alignments](#)[Get Genomic Scores](#)[Operate on Genomic Intervals](#)[Statistics](#)[Graph/Display Data](#)[Evolution: HyPhy](#)[EMBOSS](#)

Visit [Galaxy Talk and Posters](#) at the Genome Informatics Meeting in Cold Spring Harbor (November 1 - 5, 2007)

Download Galaxy brochure [here](#).

Unsequenced Genomes of the World | November 2007



Spectacled Flying Fox (*Pteropus conspiculatus*) | Queensland, Australia

Galaxy is for Biologists

Use this site to access popular sources of data like the UCSC Table Browser. Run analyses right on the spot using a variety of integrated tools. Your results are always available and can be easily shared with others. Just [watch](#) how.

Galaxy is for Developers

Galaxy is an easy-to-use, open-source, scalable framework for tool and data integration. Stop wasting time writing interfaces and get your tools used by biologists! Galaxy includes everything you need to get started, so [download](#) and start [integrating](#)!

History ([options](#))

[refresh](#) | [collapse all](#)

3: [shortExons](#)



2,444 regions, format: bed, database: hg18

Info: Filtering with $c7 < 10$, [save](#) | [display at UCSC main](#)

1	2	3
chr1 7440	7444	ENST00000326632_
chr1 853117	853124	ENST00000338633_
chr1 855852	855859	ENST00000338633_
chr1 886796	886799	ENST00000338591_
chr1 1209148	1209150	ENST00000379101_
chr1 1212414	1212419	ENST00000379101_

2:



[ensExonWithLength](#)

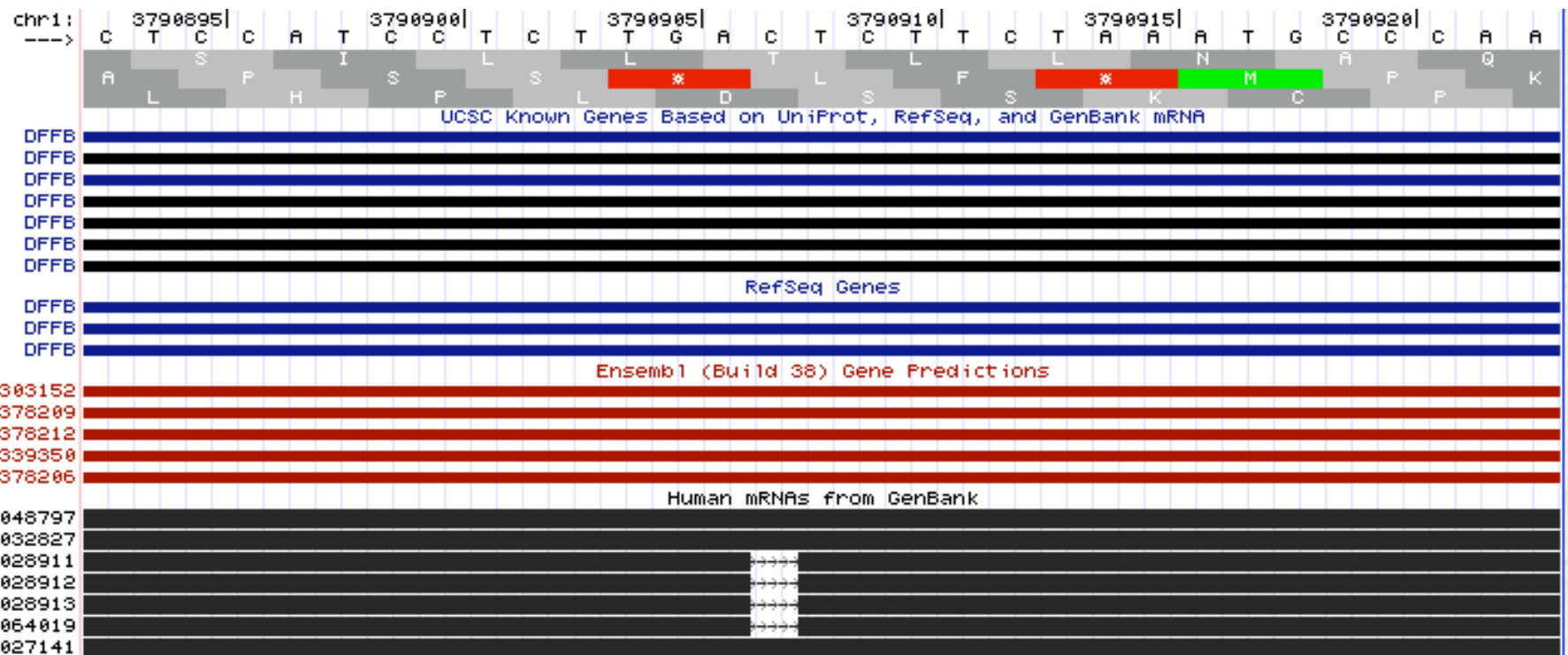
490,526 regions, format: bed, database: hg18

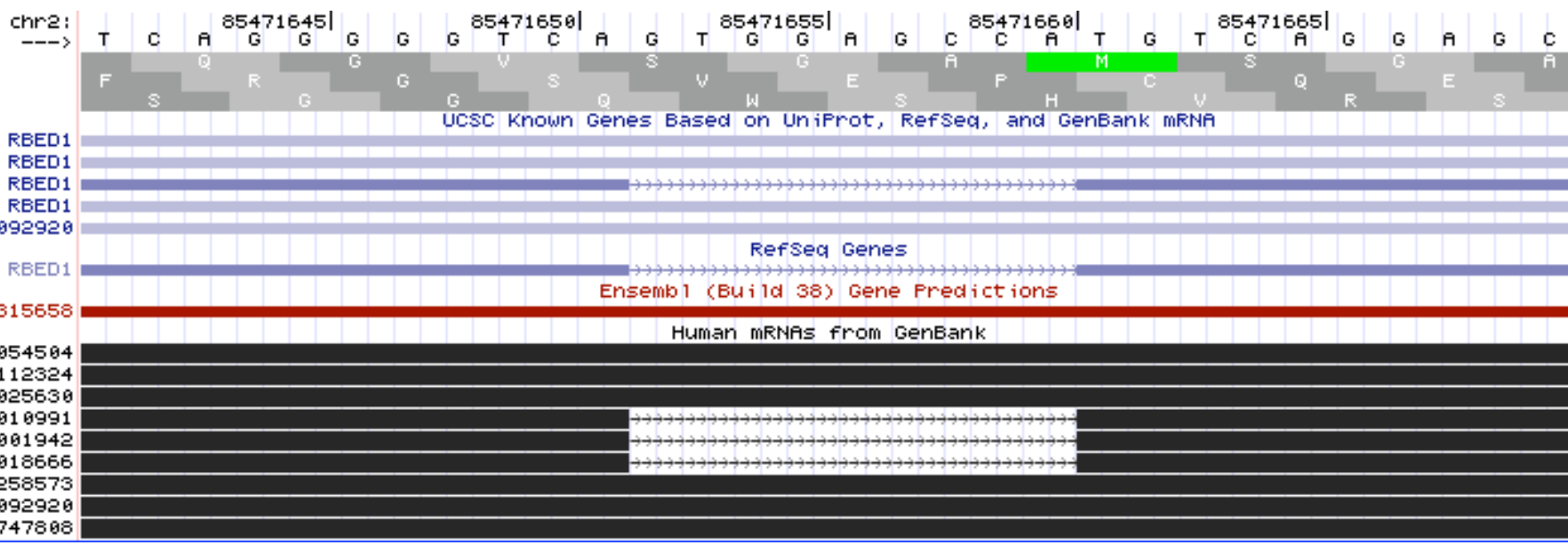
Info: Creating column 7 with expression $c3-c2$

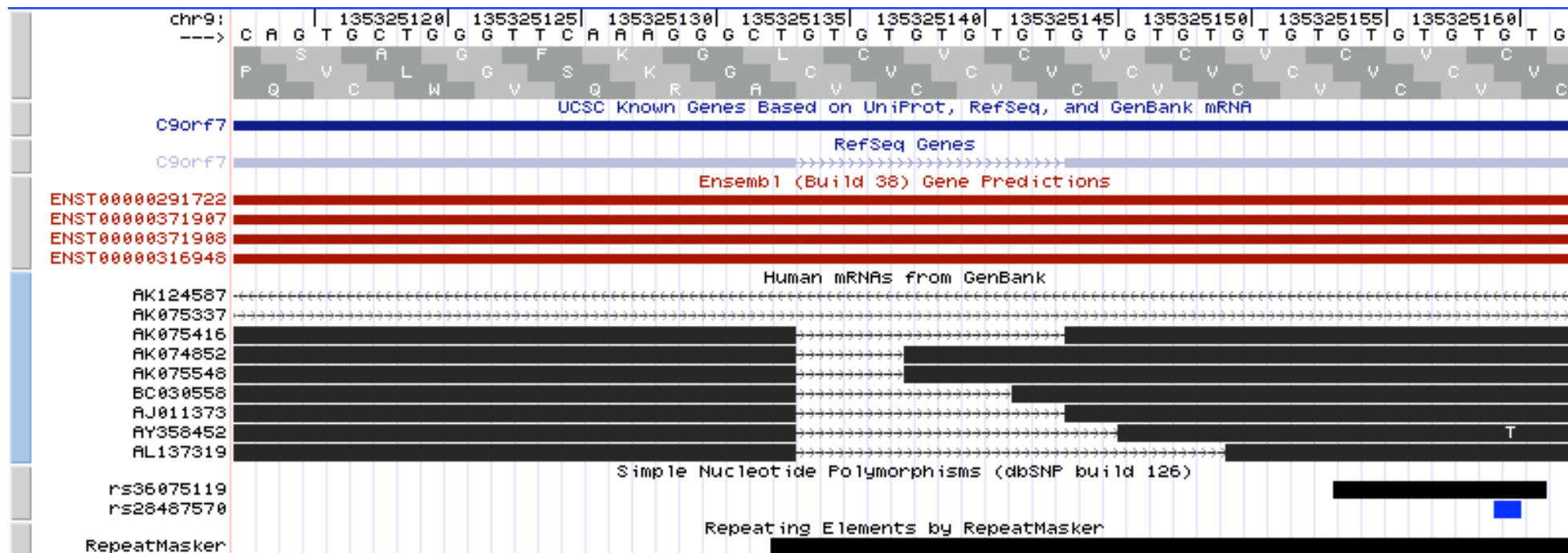
[save](#) | [display at UCSC main](#)

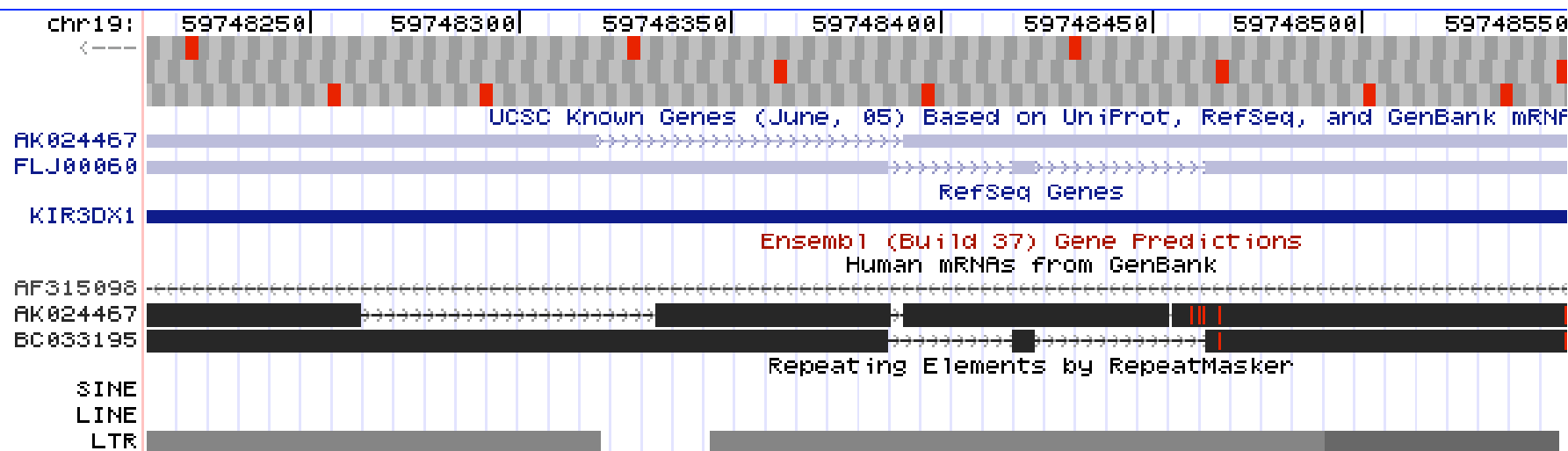
1	2	3	4
chr1 4273	4391	ENST00000326632_exon_0	
chr1 4870	4901	ENST00000326632_exon_1	
chr1 5658	5764	ENST00000326632_exon_2	
chr1 5766	5810	ENST00000326632_exon_3	
chr1 6469	6608	ENST00000326632_exon_4	
chr1 6610	6628	ENST00000326632_exon_5	











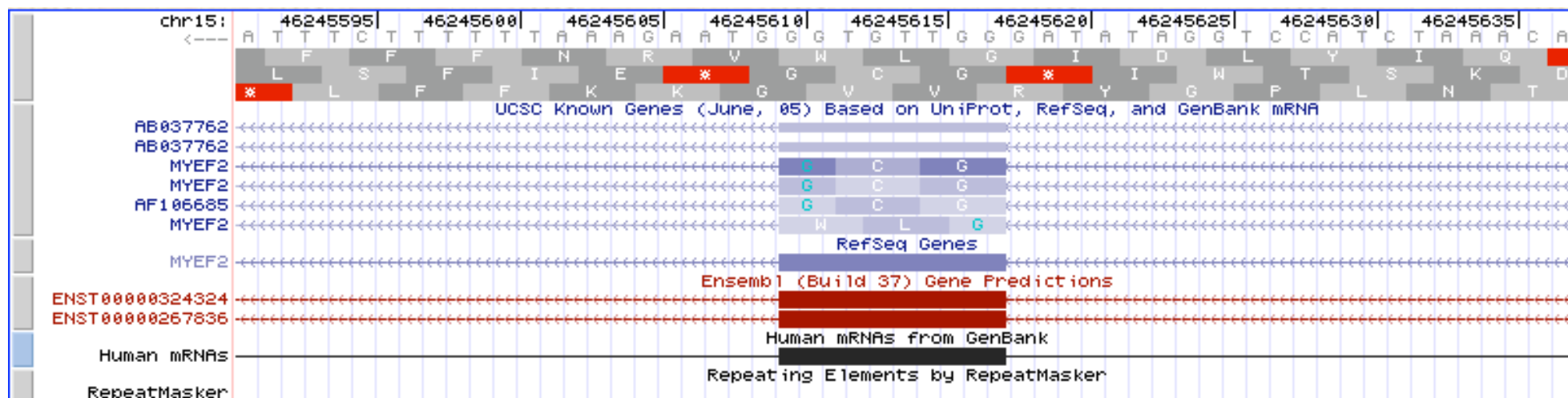


Table Browser

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clade: **genome:** **assembly:**

group: **database:**

table:

identify:

filter:

output:

output: (leave blank to keep output in browser)

file type:

get or:

To reset:

To reset:

To reset:

To reset:

To reset:

To reset:

To reset:

To reset:

To reset:

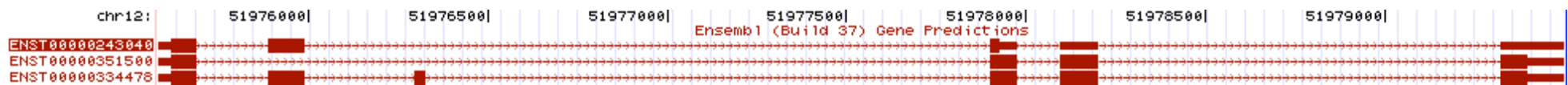
To reset:

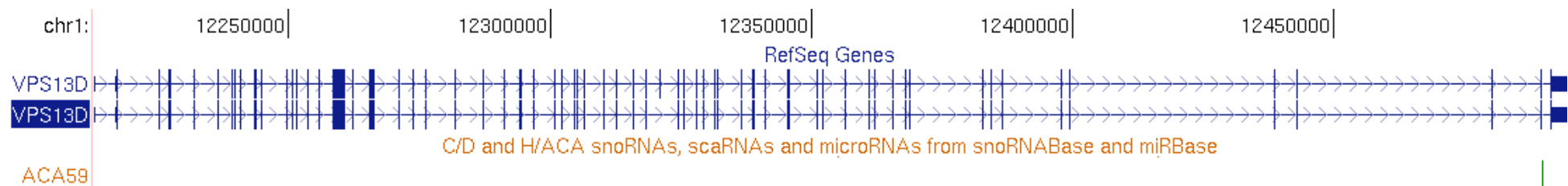
To reset:

Using: (custom tracks), [click here](#).

Using: (custom tracks), [click here](#).

Using: (custom tracks), [click here](#).





bioperl-1.5.2
bioperl-1.5.2::Bio
bioperl-1.5.2::Bio

Search Utils

SearchWriterI

Seq

Segment

Segment

SegmentI

Seq

SeqAnalysisParser

SeqAnalysisParser

SeqAnalysisParser

SeqBuilder

SeqDiff

SeqFactory

SeqFastaSpeedFac

SeqFeature

SeqFeatureI

SeqHound

SeqI

SeqI

SeqI

SeqIO

SeqPattern

SeqStats

SeqUtils

SeqVersion

SeqWithQuality

SeqWords

Summary

Bio::Seq - Sequence object, with features

Package variables

No package variables defined.

Included modules

[Bio::Annotation::Collection](#)

[Bio::PrimarySeq](#)

Inherit

[Bio::AnnotatableI](#) [Bio::DescribableI](#) [Bio::FeatureHolderI](#) [Bio::IdentifiableI](#) [Bio::F](#)

Synopsis

```
# This is the main sequence object in Bioperl

# gets a sequence from a file
$seqio = Bio::SeqIO->new( '-format' => 'embl' , -f
$seqobj = $seqio->next_seq();

# SeqIO can both read and write sequences; see Bio:
# for more information and examples

# get from database
$db = Bio::DB::GenBank->new();
$seqobj = $db->get_Seq_by_acc('X78121');

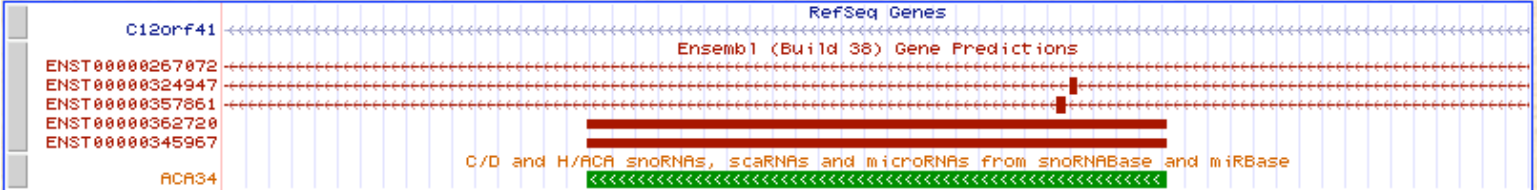
# make from strings in script
$seqobj = Bio::Seq->new( -display_id => 'my_id',
                        -seq => $sequence_as_strin
```

OR select a class from the list:

Blo::DB::GFF::Aggregator::ucsc_genscan	UCSC genscan aggregator
Blo::Tools::Genscan	Results of one Genscan run

sort by method ▼

methods for Bio::Tools::Genscan			
next_feature	Bio::Tools::Genscan	A Bio::Tools::Prediction::Gene object.	while(\$gene = \$genscan->next_feature())
next_prediction	Bio::Tools::Genscan	A Bio::Tools::Prediction::Gene object.	while(\$gene = \$genscan->next_prediction())
noclose	Bio::Root::IO	value of noclose (a scalar)	\$obj->noclose(\$newval)
otherwise	Bio::Root::Root	not documented	not documented
parse	Bio::Tools::AnalysisResult	not documented	not documented
qualify	Bio::Tools::Genscan	not documented	not documented
qualify_to_ref	Bio::Tools::Genscan	not documented	not documented
rmtree	Bio::Root::IO	number of files successfully deleted	Bio::Root::IO->rmtree(\$dirname);
stack_trace	Bio::Root::RootI	array containing a reference of arrays	@stack_array_ref= \$self->stack_trace
stack_trace_dump	Bio::Root::RootI	not documented	not documented
tempdir	Bio::Root::IO	The name of a new temporary directory.	my (\$tempdir) = \$io->tempdir(CLEANUP



jump | clear | **size 60 bp.** | configure

chr4 (q32.1)

chr4:	158477300										158477310										158477320										158477330										158477340										158477350									
---->	A	G	T	C	T	C	T	G	G	T	T	T	T	C	C	T	T	G	G	G	T	G	C	C	T	T	T	A	T	G	C	A	G	C	A	R	G	G	A	T	G	C	G	A	T	A	T	T	T	C	G	C	A	R	G	G	T	T	G	
	*	S	L	L	V	F	F	S	L	G	G	C	L	F	M	Q	Q	R	G	M	R	D	Y	I	F	S	A	P	K	V	L	W																												
	S	V	S	G	F	P	W	V	P	L	C	S	K	D	C	A	I	F	R	Q	G	W																																						
	UCSC Known Genes Based on UniProt, RefSeq, and GenBank mRNA																																																											
GRIA2	S	L	W	F	S	L	G	A	F	M	Q	Q	G	C	D	I	S	P	K	-----																																								
GRIA2	S	L	W	F	S	L	G	A	F	M	Q	Q	G	C	D	I	S	P	K	-----																																								
	Human mRNAs from GenBank																																																											
028736	G																																							-----																				
032605	G																																							-----																				
009567	G																																							-----																				
010574	G																																							-----																				
020814	G																																							-----																				

snpTest +1

28.1 Mb in

154 regions > 0.3

[chr22 14.4M to 14.7M](#)

[chr22 14.8M to 15.8M](#)

[chr22 15.8M to 15.9M](#)

[chr22 16.0M to 16.0M](#)

[chr22 16.0M to 16.0M](#)

[chr22 16.3M to 16.4M](#)

[chr22 16.5M to 16.6M](#)

[chr22 16.7M to 17.0M](#)

[chr22 17.0M to 17.1M](#)

[chr22 17.1M to 17.2M](#)

[chr22 17.2M to 17.3M](#)

[chr22 17.3M to 17.3M](#)

[chr22 17.4M to 17.4M](#)

[chr22 17.4M to 17.5M](#)

[chr22 17.5M to 17.5M](#)

[Home](#) [Genomes](#) [Blat](#) [Tables](#) [Gene Sorter](#) [PCR](#) [DNA](#) [Convert](#) [Ensembl](#) [NCBI](#) [PDF/PS](#) [Session](#) [Help](#)

UCSC Genome Browser on Human Mar. 2006 Assembly

move <<< << < > >> >>> zoom in 1.5x 3x 10x base zoom out 1.5x 3x 10x

position/search chr22:27,826,230-28,294,249

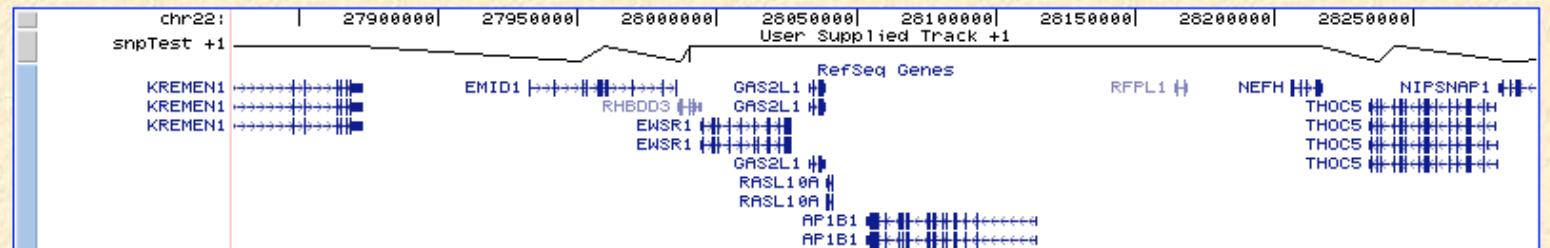
jump

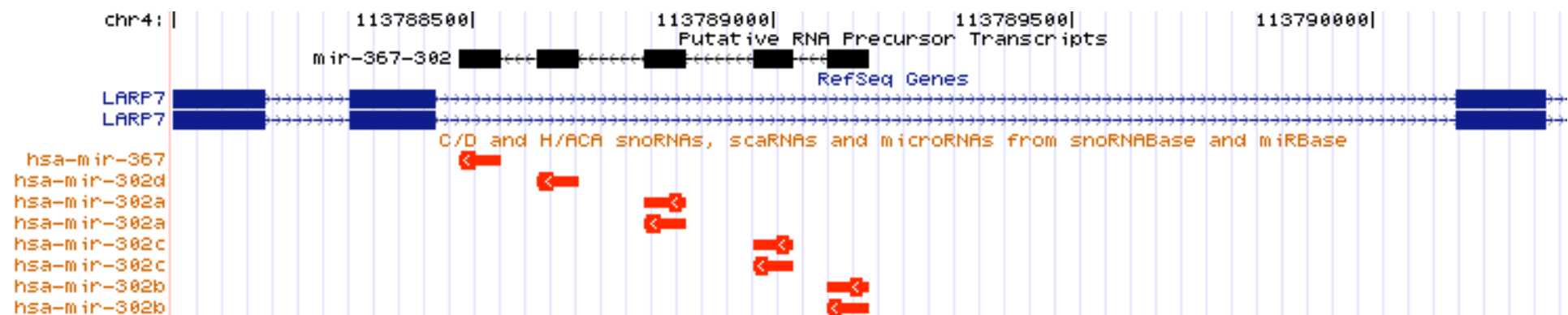
clear

size 468,020 bp.

configure

chr22 (q12.1-q12.2) 22p13 22p12 p11.2 q11.21 q12.1 12.2 22q12.3 q13.1 q13.2 q13.31





Abundance Profile

434 clusters retrieved.

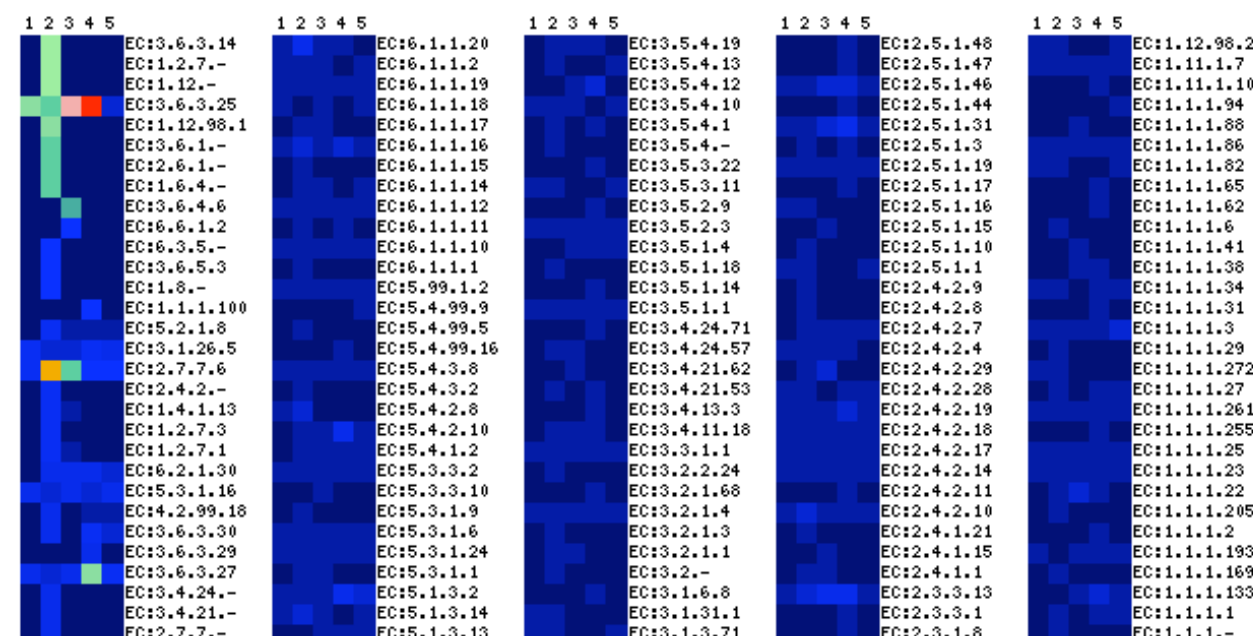
Mouse over labels to see additional information.

Clicking on the column number will sort rows for that column in descending gene count order.

Clicking on row cluster ID will add the cluster to the appropriate analysis cart (if cart is supported).

Mouse over heat map to see gene counts. Clicking on gene count will take you to the gene list.

- 1 - [Methanocaldococcus jannaschii DSM 2661](#)
- 2 - [Methanococcus maripaludis S2](#)
- 3 - [Methanosaeta thermophila PT](#)
- 4 - [Methanosarcina acetivorans C2A](#)
- 5 - [Methanothermobacter thermautotrophicus Delta H](#)



Chromosome Viewer

Loaded.

AMO community : amo_AY714822 (37318bp gc=0.44)
(coordinates 1-37318)

 **hint:** Mouse over a gene to see details.



[Get Nucleotide Sequence For Range](#)

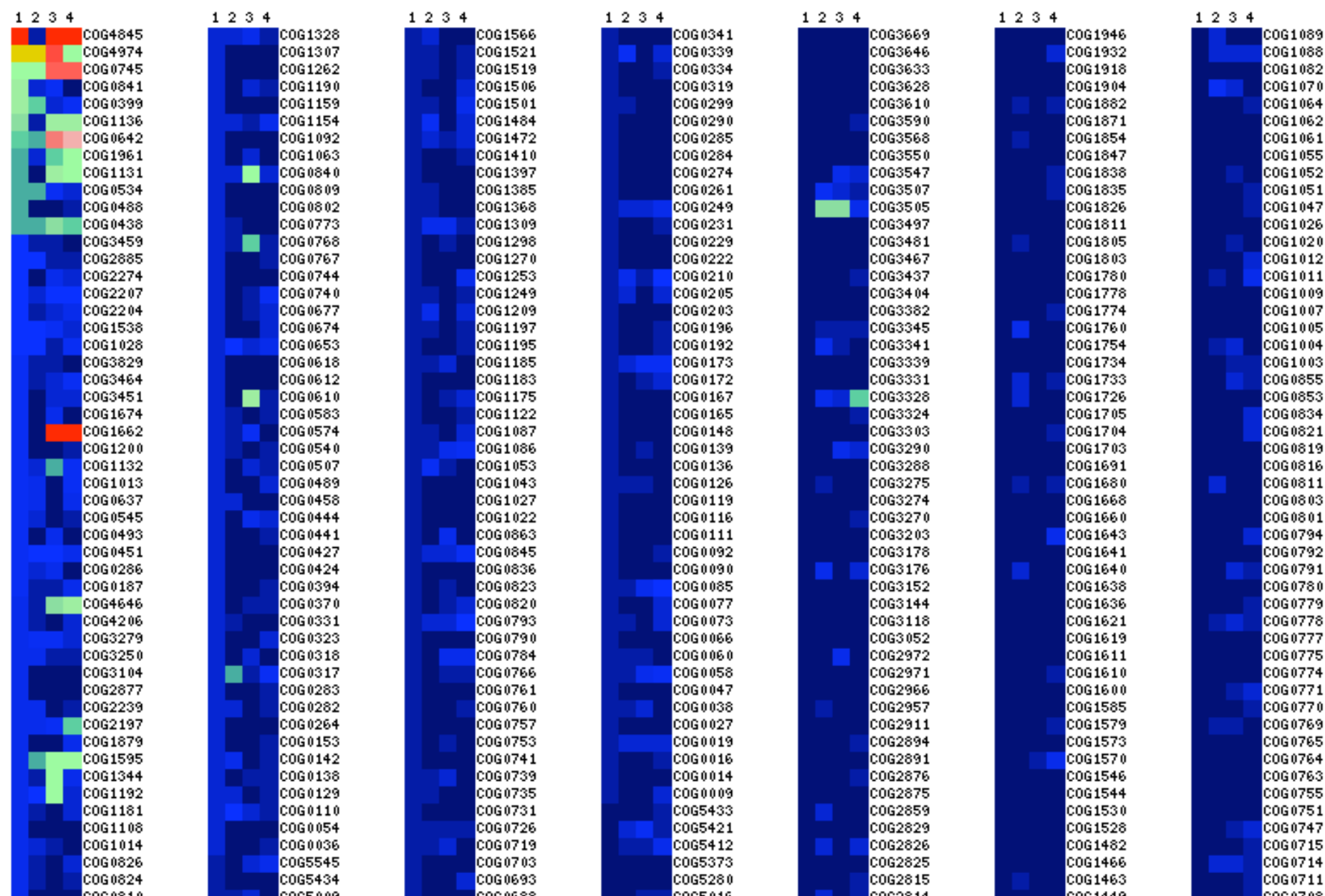
(RNA's are shown in black.)
CRISPR array.

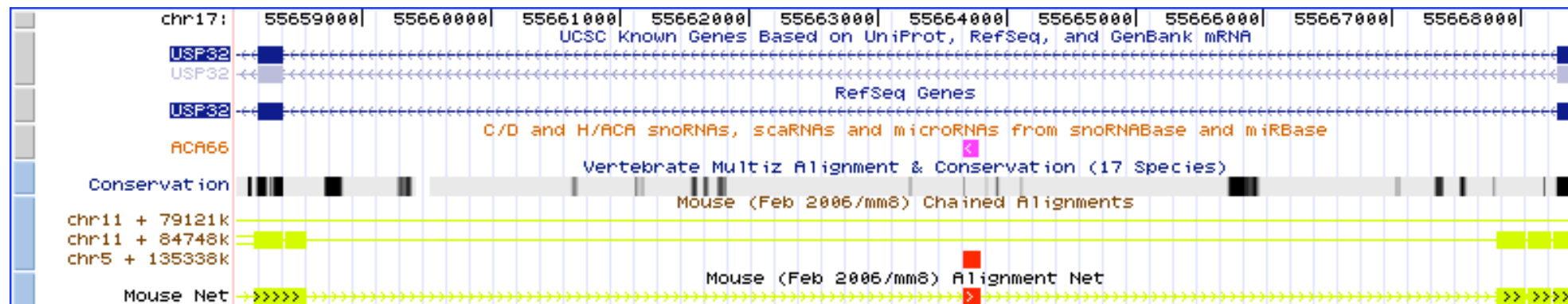
COG Coloring Selection

Color code of function category for top COG hit is shown below.
You may select a subset to view specific categories.

Show Color	COG Code	COG Function Definition
☒	[A]	RNA processing and modification
☒	[B]	Chromatin structure and dynamics
☒	[C]	Energy production and conversion
☒	[D]	Cell cycle control, cell division, chromosome partitioning
☒	[E]	Amino acid transport and metabolism
☒	[F]	Nucleotide transport and metabolism

- 1 - [Mouse Gut Community lean1](#)
- 2 - [Mouse Gut Community lean2](#)
- 3 - [Mouse Gut Community ob1](#)
- 4 - [Mouse Gut Community ob2](#)





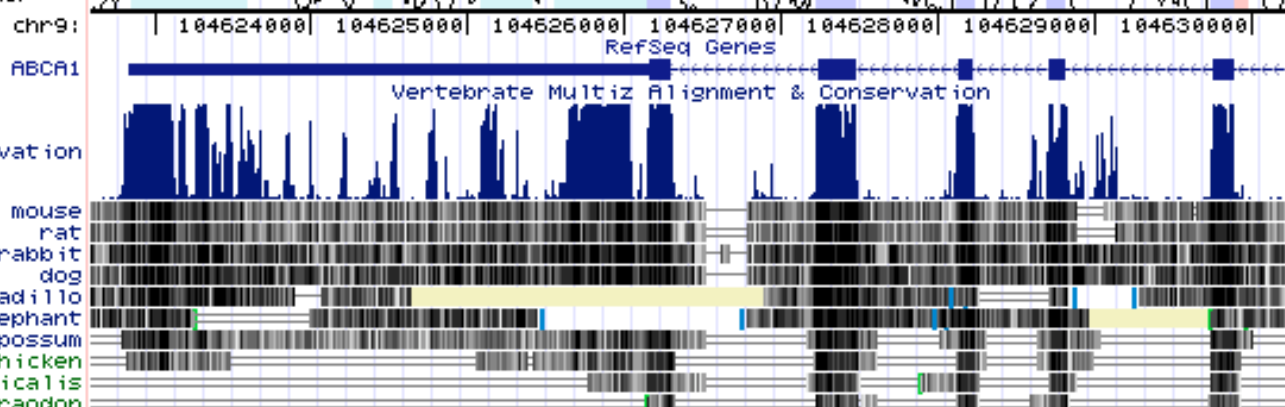
position/search chr9:104,622,591-104,630,241 [jump](#) [clear](#) size 7,651 bp. [configure](#)

chr9 (q31.1)  9q12

Track 1039
Chicken Feb. 2004
chr2 (+)
26514900-26521005

Track 1039
Dog May 2005
chr11 (+)
63789909-63797542

Track 1039
Mouse Aug. 2005
chr4 (+)
53044359-53052417



move start

< 2.0 >

Click on a feature for details. Click on base position to zoom in around cursor. Click on left mini-buttons for track-specific options.

move end

< 2.0 >

[default tracks](#)

[hide all](#)

[add custom tracks](#)

[configure](#)

[refresh](#)

Use drop down controls below and press refresh to alter tracks displayed.

Tracks with lots of items will automatically be displayed in more compact modes.

VISTA Tracks

All tracks:

sliding window: 100

genes: RefSeq genes

Chicken
(track 1039)

Rat
(track 1039)

Dog
(track 1039)

Mouse
(track 1039)

mode

dense

hide

dense

dense

contigs

70

70

70

70

conservation

70

70

70

70

UCSC Known Genes (June, 05) Based on UniProt, RefSeq, and GenBank mRNA
Vertebrate Multiz Alignment & Conservation

CPTR

C V C K L M A N K T R I L V T S K M E H L K K A D K I L

Conservation

TBA PhastCons

TBA PhastCons Conservation

TBA GERP Cons

TBA GERP Conservation

TBA SCONe Cons

TBA SCONe Conservation

MLAGAN PhastCons

MLAGAN PhastCons Conservation

MLAGAN GERP Cons

MLAGAN GERP Conservation

MAVID PhastCons

MAVID PhastCons Conservation

MAVID GERP Cons

MAVID GERP Conservation