Slco1b2 Cas9-KO Strategy

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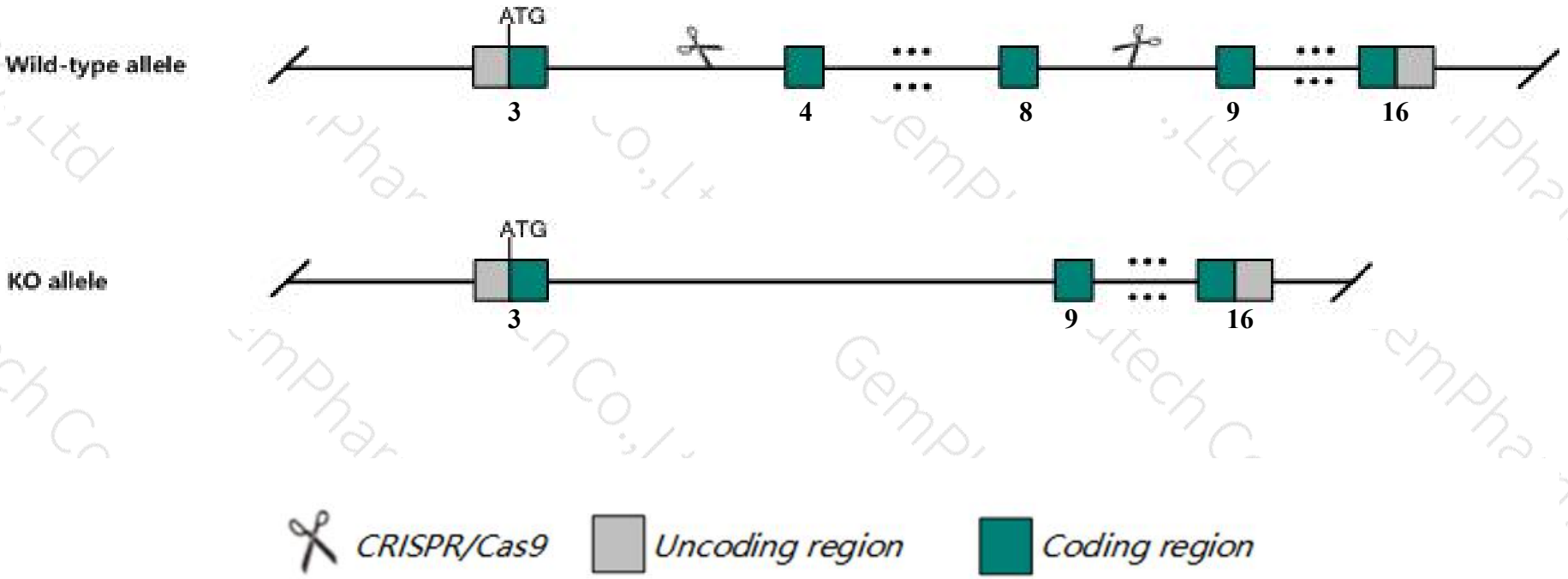
Project Overview

Project Name	***Slco1b2***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slco1b2* gene. The schematic diagram is as follows:



Technical routes

➢ The *Slco1b2* gene has 4 transcripts. According to the structure of *Slco1b2* gene, exon4-exon8 of *Slco1b2-201* (ENSMUST00000042812.8) transcript is recommended as the knockout region.The region contains 634bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Slco1b2* gene. The brief process is as follows: CRISPR/Cas9 syste

Notice

➢ According to the existing MGI data,Mice homozygous for a null mutation display slight abnormalities in blood chemistry and are resistant to injury induced by some classes of hepatotoxins.

➢Transcript *Slco1b2*-202 may not be affected.

➢ The *Slco1b2* gene is located on the Chr6. If the knockout mice are crossed with other mice strains to obtain double gene positive homozygous mouse offspring, please avoid the two genes on the same chromosome.

➢ This Strategy is designed based on genetic information in existing databases.Due to the complexity of biological processes, all risk of the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information（NCBI）

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Slco1b2 solute carrier organic anion transporter family, member 1b2 [*Mus musculus* (house mouse)]

Gene ID: 28253, updated on 12-Aug-2019

Summary

Official Symbol	Slco1b2 provided by MGI
Official Full Name	solute carrier organic anion transporter family, member 1b2 provided by MGI
Primary source	MGI:MGI:1351899
See related	Ensembl:ENSMUSG00000030236
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	OATP2; Oatp4; lst-1; OATP-C; mlst-1; Oatp1b2; Slc21a6; Slc21a10; 7330442B20Rik
Expression	Biased expression in liver adult (RPKM 49.6), liver E18 (RPKM 18.8) and 1 other tissue See more
Orthologs	human all

Genomic context

Location: 6 G2; 6 72.57 cM

See Slco1b2 in Genome Data Viewer

Exon count: 16

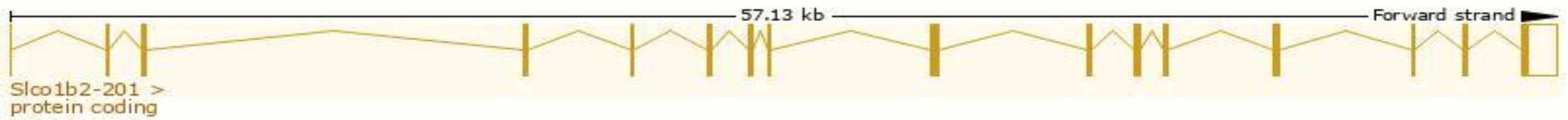
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	6	NC_000072.6 (141629452..141686646)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	6	NC_000072.5 (141578039..141635156)

Transcript information（Ensembl）

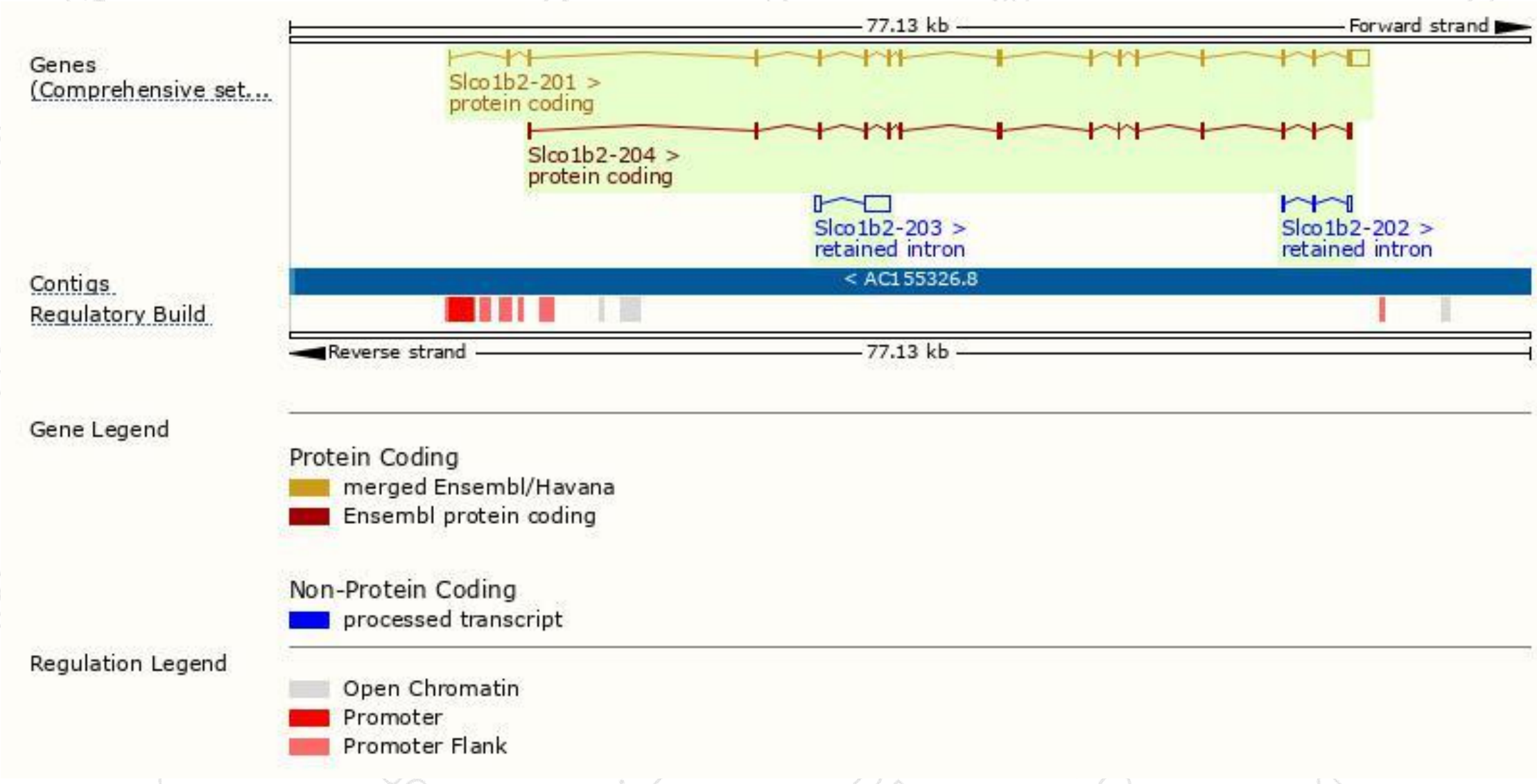
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slco1b2-201	ENSMUST00000042812.8	3307	689aa	Protein coding	CCDS20678	Q9JJL3	TSL:1 GENCODE basic APPRIS P2
Slco1b2-204	ENSMUST00000203597.1	1965	654aa	Protein coding	-	A0A0N4SUN2	TSL:5 GENCODE basic APPRIS ALT2
Slco1b2-203	ENSMUST00000162675.1	1922	No protein	Retained intron	-	-	TSL:1
Slco1b2-202	ENSMUST00000160179.1	467	No protein	Retained intron	-	-	TSL:2

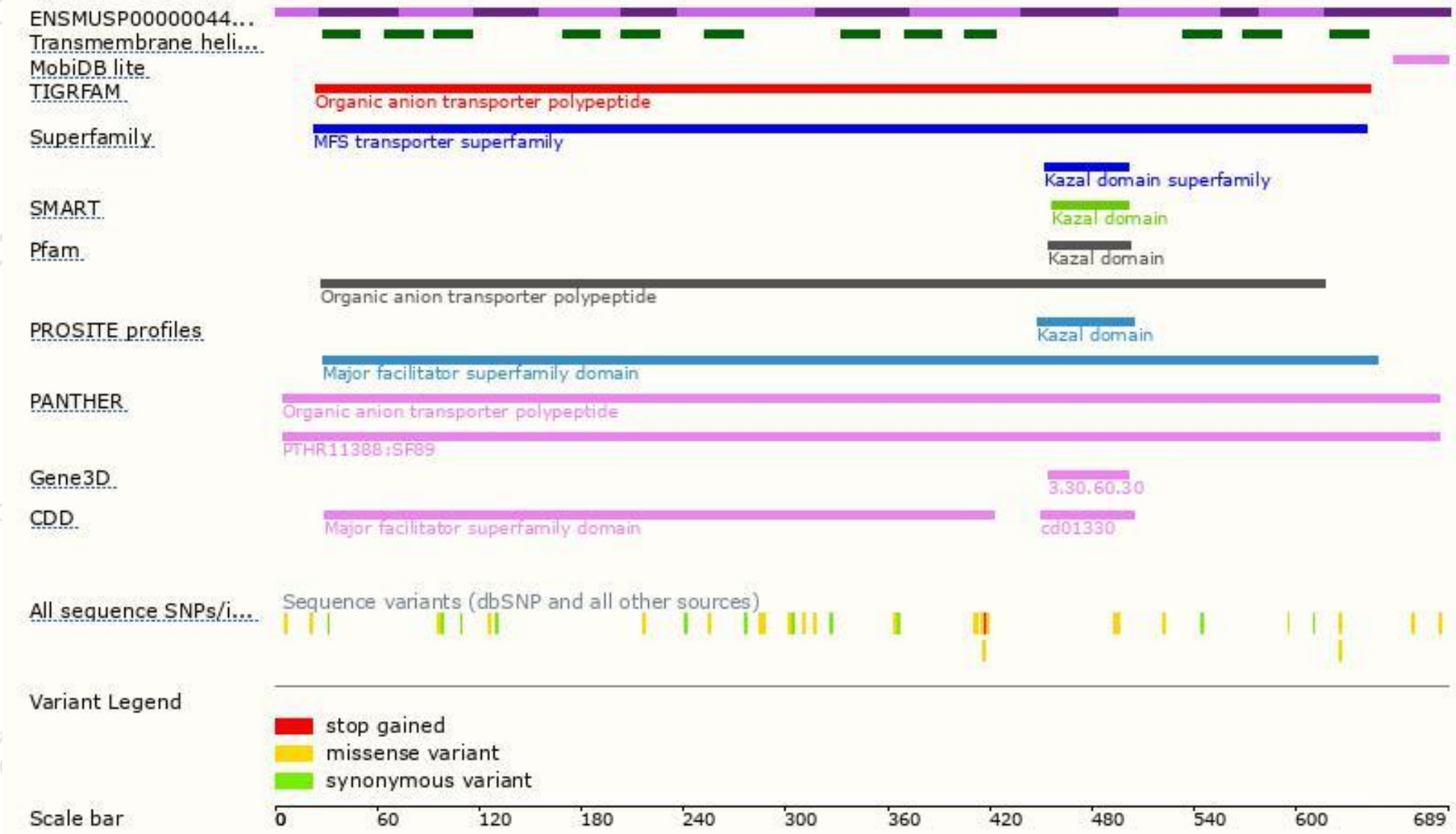
The strategy is based on the design of *Slco1b2-201* transcript,The transcription is shown below



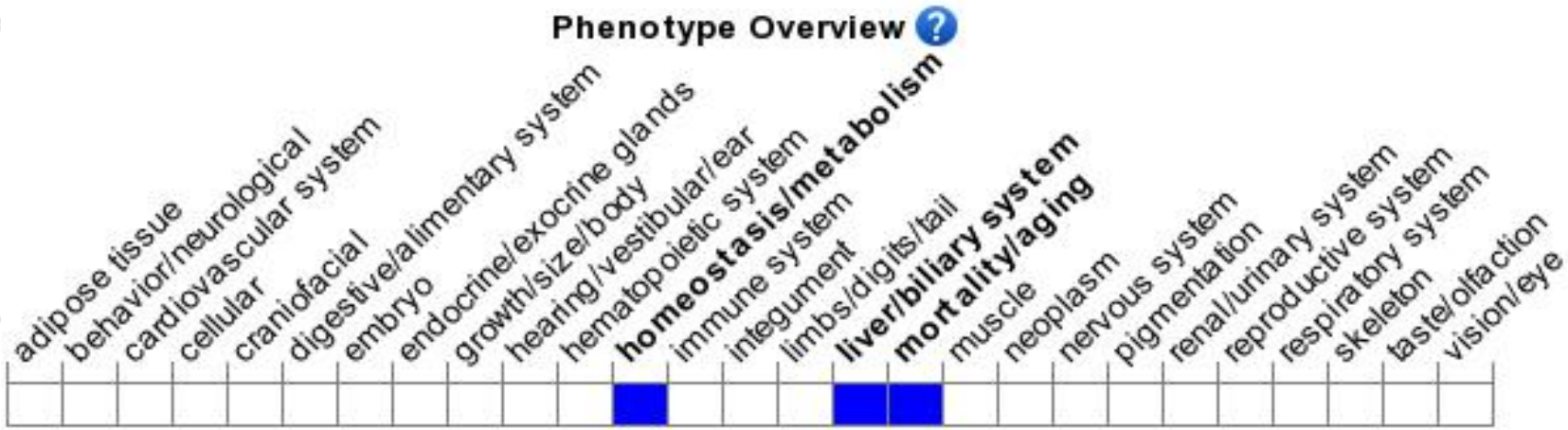
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue.Data quoted from MGI database(http://www.informatics.jax.org/).

According to the existing MGI data,Mice homozygous for a null mutation display slight abnormalities in blood chemistry and are resistant to injury induced by some classes of hepatotoxins.

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If you have any questions, you are welcome to inquire.

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