

***Zbtb43* Cas9-KO Strategy**

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Project Overview

Project Name

Zbtb43

Project type

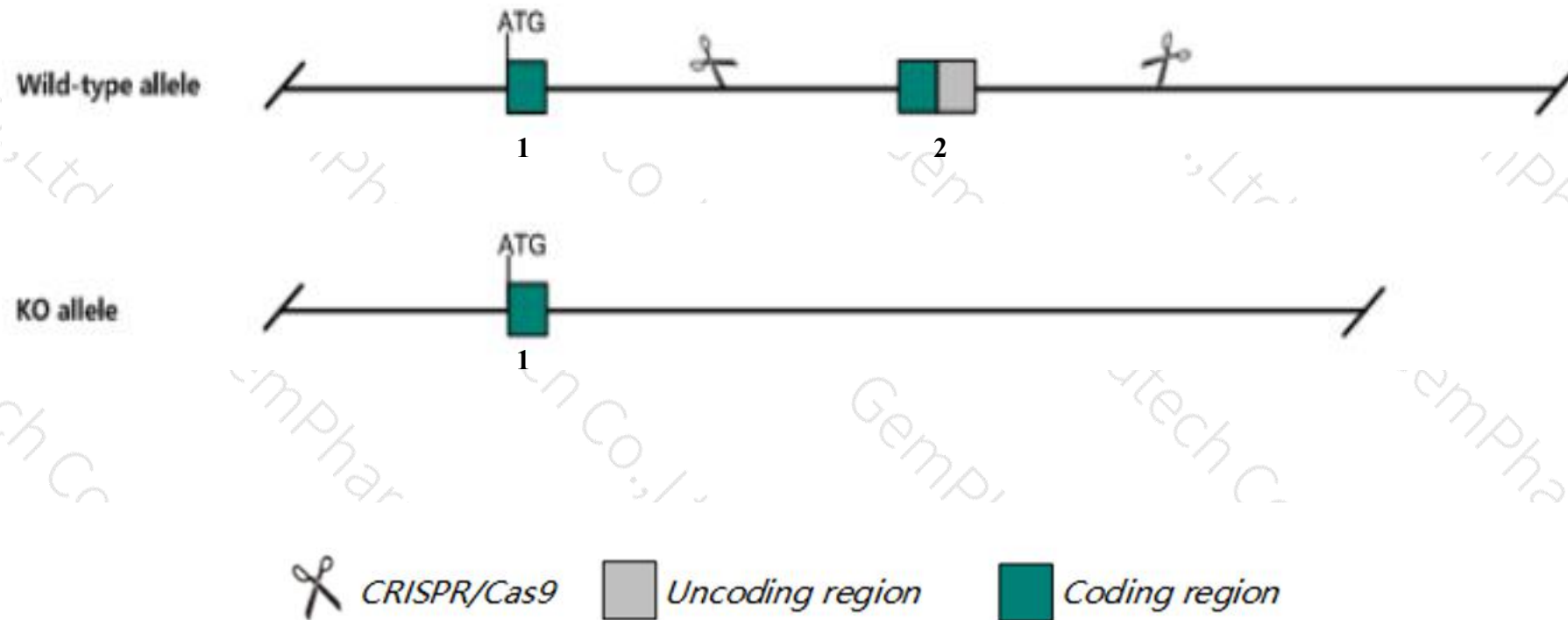
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zbtb43* gene. The schematic diagram is as follows:



- The *Zbtb43* gene has 5 transcripts. According to the structure of *Zbtb43* gene, exon2 of *Zbtb43*-202(ENSMUST00000095035.2) transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zbtb43* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The *Zbtb43* gene is located on the Chr2. 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.
- The knockout region is near to the C-terminal of *Gm13536* gene, this strategy may influence the regulatory function of the C-terminal of *Gm13536* gene.
- 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)

Zbtb43 zinc finger and BTB domain containing 43 [Mus musculus (house mouse)]

Gene ID: 71834, updated on 13-Mar-2020

Summary



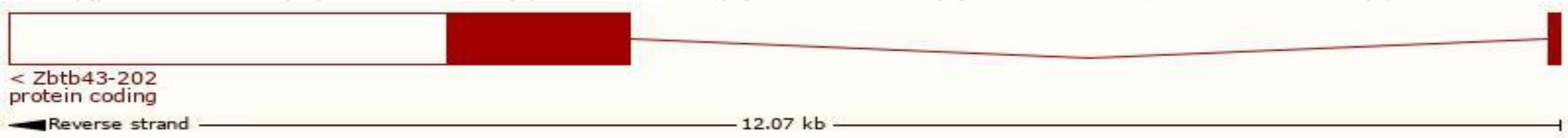
Official Symbol	Zbtb43 provided by MGI
Official Full Name	zinc finger and BTB domain containing 43 provided by MGI
Primary source	MGI:MGI:1919084
See related	Ensembl:ENSMUSG00000026788
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1700010E06Rik, Zfp297b, mKIAA0414
Expression	Ubiquitous expression in whole brain E14.5 (RPKM 5.6), CNS E18 (RPKM 5.4) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

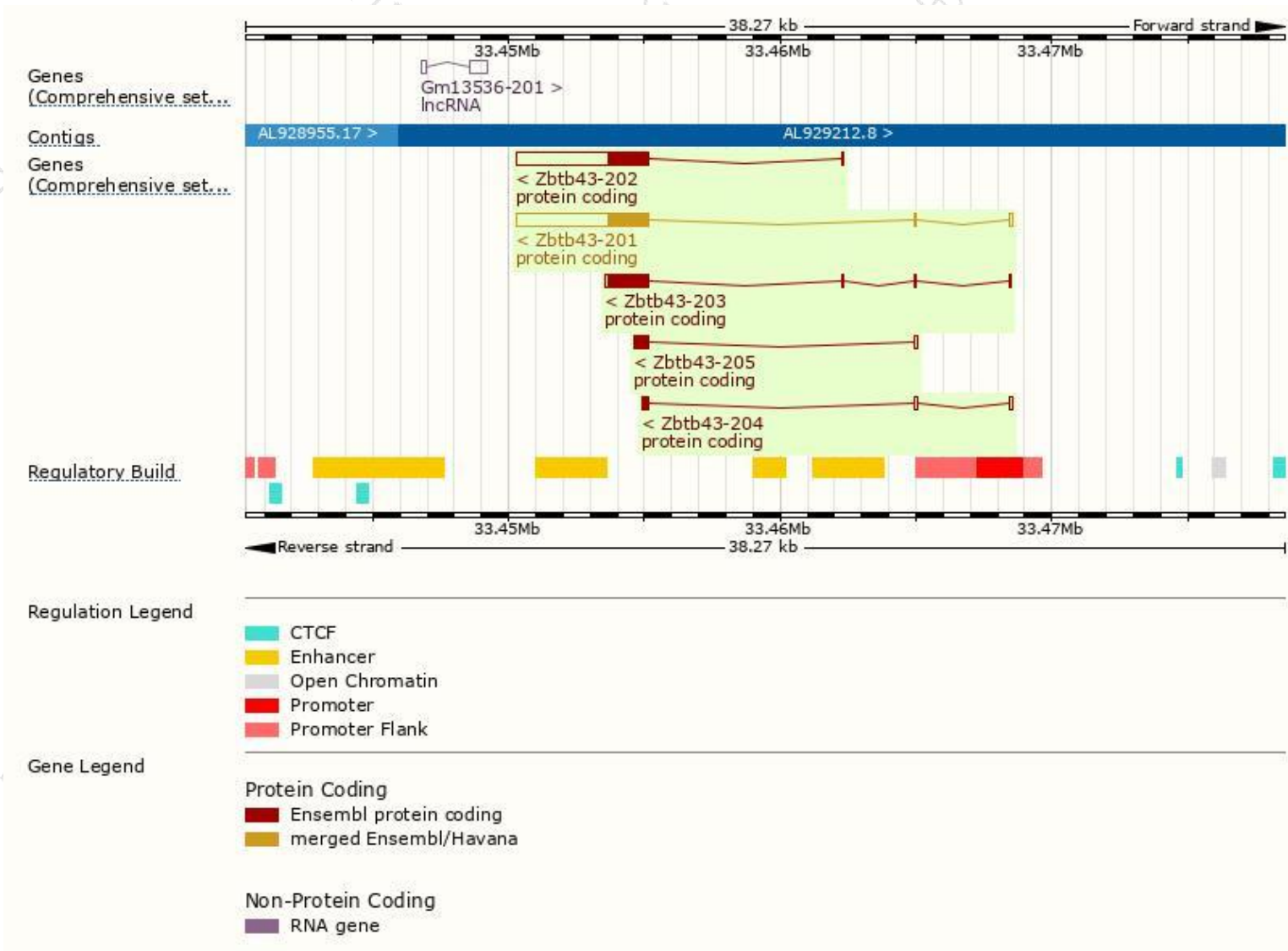
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zbtb43-201	ENSMUST00000028125.11	4998	467aa	Protein coding	CCDS15943	Q9DAI4	TSL:1 GENCODE basic APPRIS P1
Zbtb43-202	ENSMUST00000095035.2	4925	504aa	Protein coding	CCDS15942	G3X9N4	TSL:5 GENCODE basic
Zbtb43-203	ENSMUST00000113156.1	1828	504aa	Protein coding	CCDS15942	G3X9N4	TSL:1 GENCODE basic
Zbtb43-205	ENSMUST00000155198.1	674	160aa	Protein coding	-	A2AUS1	CDS 3' incomplete TSL:2
Zbtb43-204	ENSMUST00000126442.1	487	71aa	Protein coding	-	A2AUS2	CDS 3' incomplete TSL:1

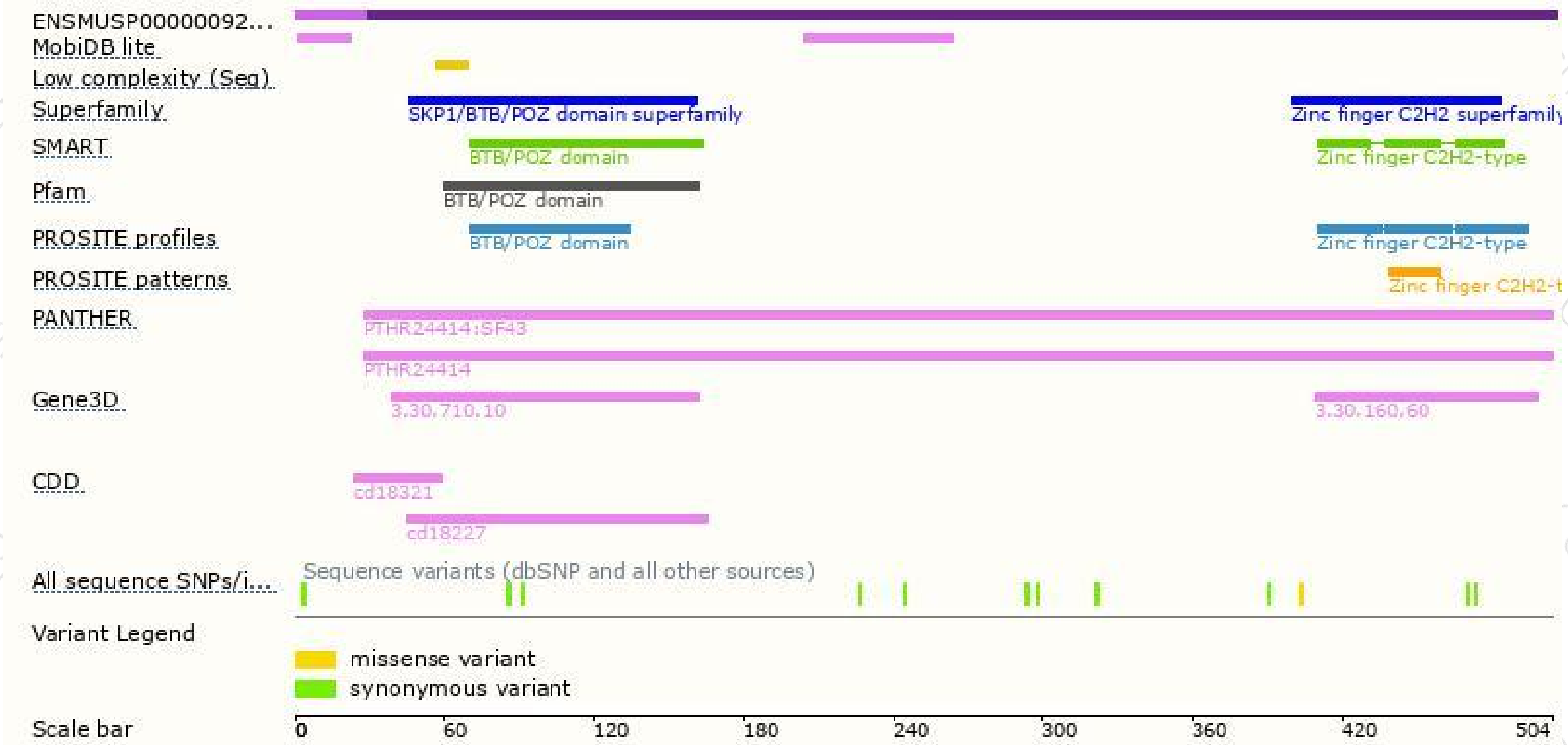
The strategy is based on the design of *Zbtb43-202* transcript,the transcription is shown below:



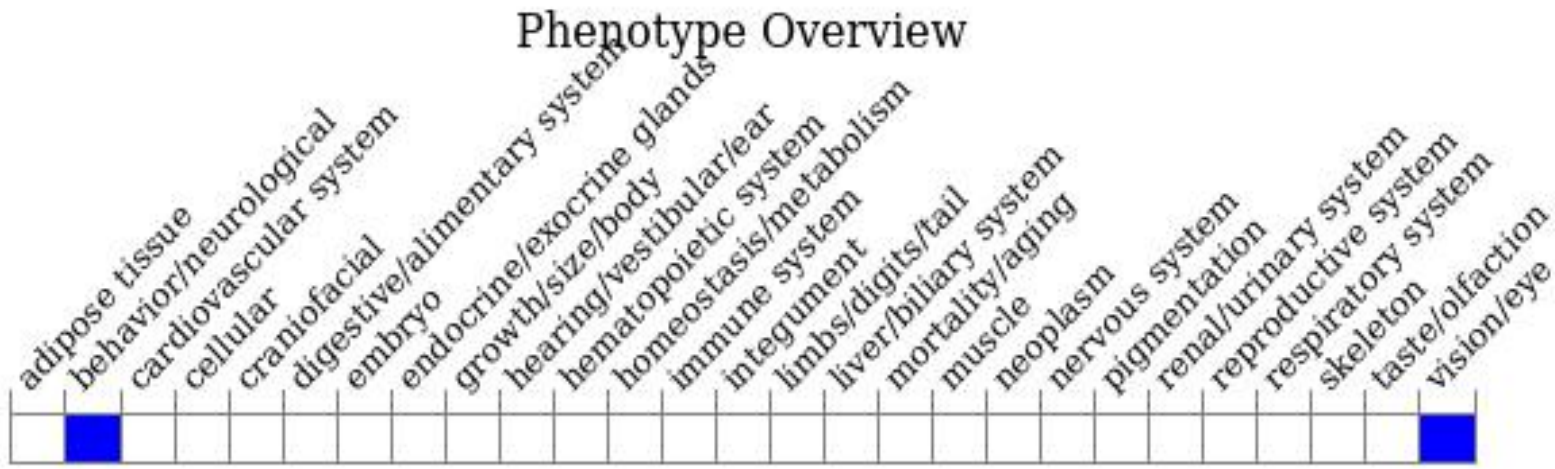
Genomic location distribution



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/>).

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

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