

# *Slc27a4* Cas9-KO Strategy

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**Reviewer:**

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# Project Overview

**Project Name**

*Slc27a4*

**Project type**

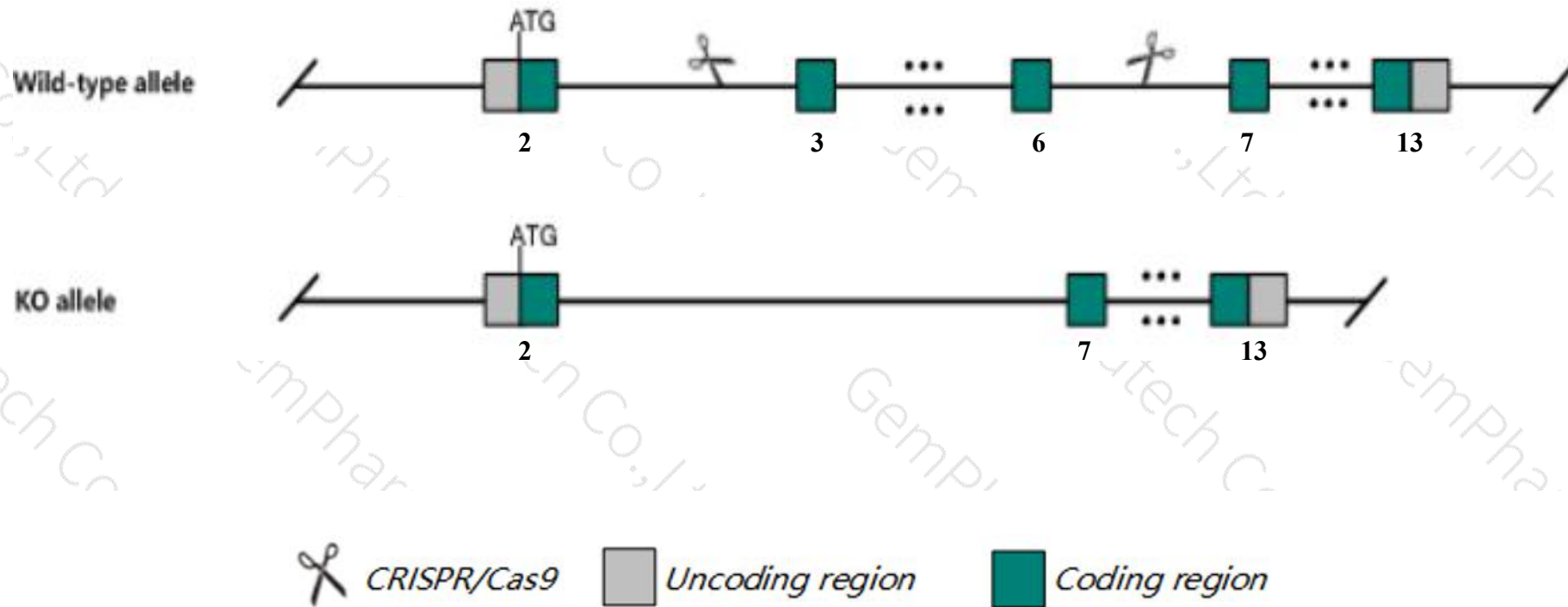
**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc27a4* gene. The schematic diagram is as follows:



- The *Slc27a4* gene has 2 transcripts. According to the structure of *Slc27a4* gene, exon3-exon6 of *Slc27a4-201* (ENSMUST00000080065.2) transcript is recommended as the knockout region. The region contains 716bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc27a4* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Homozygous mutant mice are not viable. While mice of one mutant line die during early development, mice of other mutant lines die at birth exhibiting abnormal skin.
- The *Slc27a4* 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.
- 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)

## Slc27a4 solute carrier family 27 (fatty acid transporter), member 4 [Mus musculus (house mouse)]

Gene ID: 26569, updated on 13-Mar-2020

### Summary



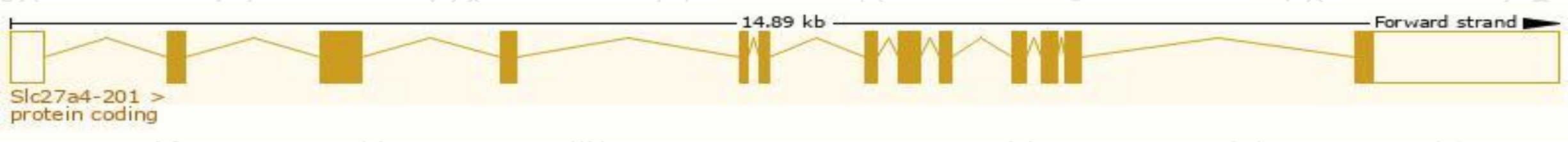
<b>Official Symbol</b>	Slc27a4 provided by <a href="#">MGI</a>
<b>Official Full Name</b>	solute carrier family 27 (fatty acid transporter), member 4 provided by <a href="#">MGI</a>
<b>Primary source</b>	<a href="#">MGI:MGI:1347347</a>
<b>See related</b>	<a href="#">Ensembl:ENSMUSG00000059316</a>
<b>Gene type</b>	protein coding
<b>RefSeq status</b>	VALIDATED
<b>Organism</b>	<a href="#">Mus musculus</a>
<b>Lineage</b>	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
<b>Also known as</b>	BB144259, FATP4
<b>Expression</b>	Biased expression in duodenum adult (RPKM 297.3), small intestine adult (RPKM 226.2) and 14 other tissues <a href="#">See more</a>
<b>Orthologs</b>	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

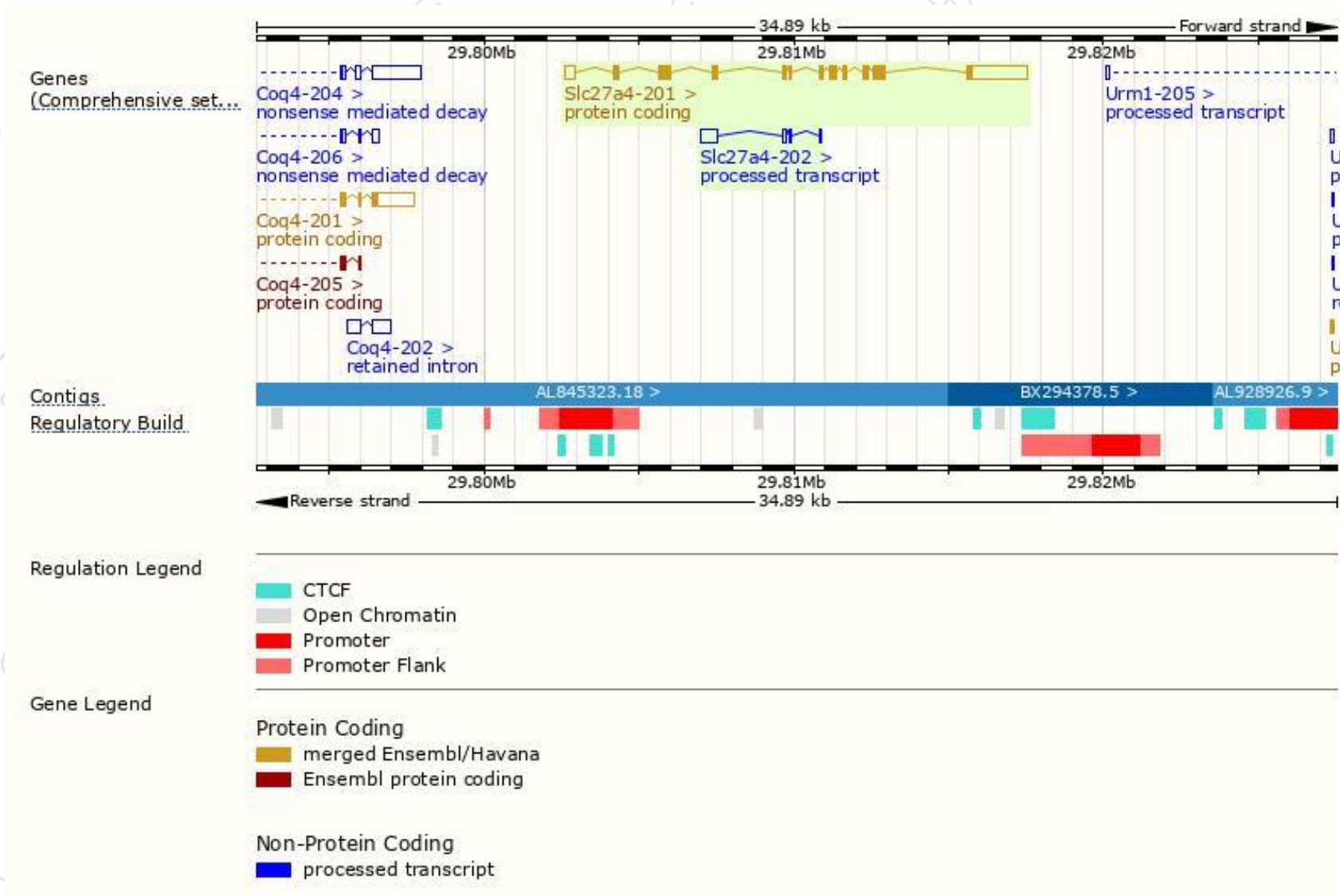
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc27a4-201	<a href="#">ENSMUST00000080065.2</a>	4054	<a href="#">643aa</a>	Protein coding	<a href="#">CCDS15858</a>	<a href="#">Q91VE0</a>	TSL:1 GENCODE basic APPRIS P1
Slc27a4-202	<a href="#">ENSMUST00000136444.1</a>	722	No protein	Processed transcript	-	-	TSL:5

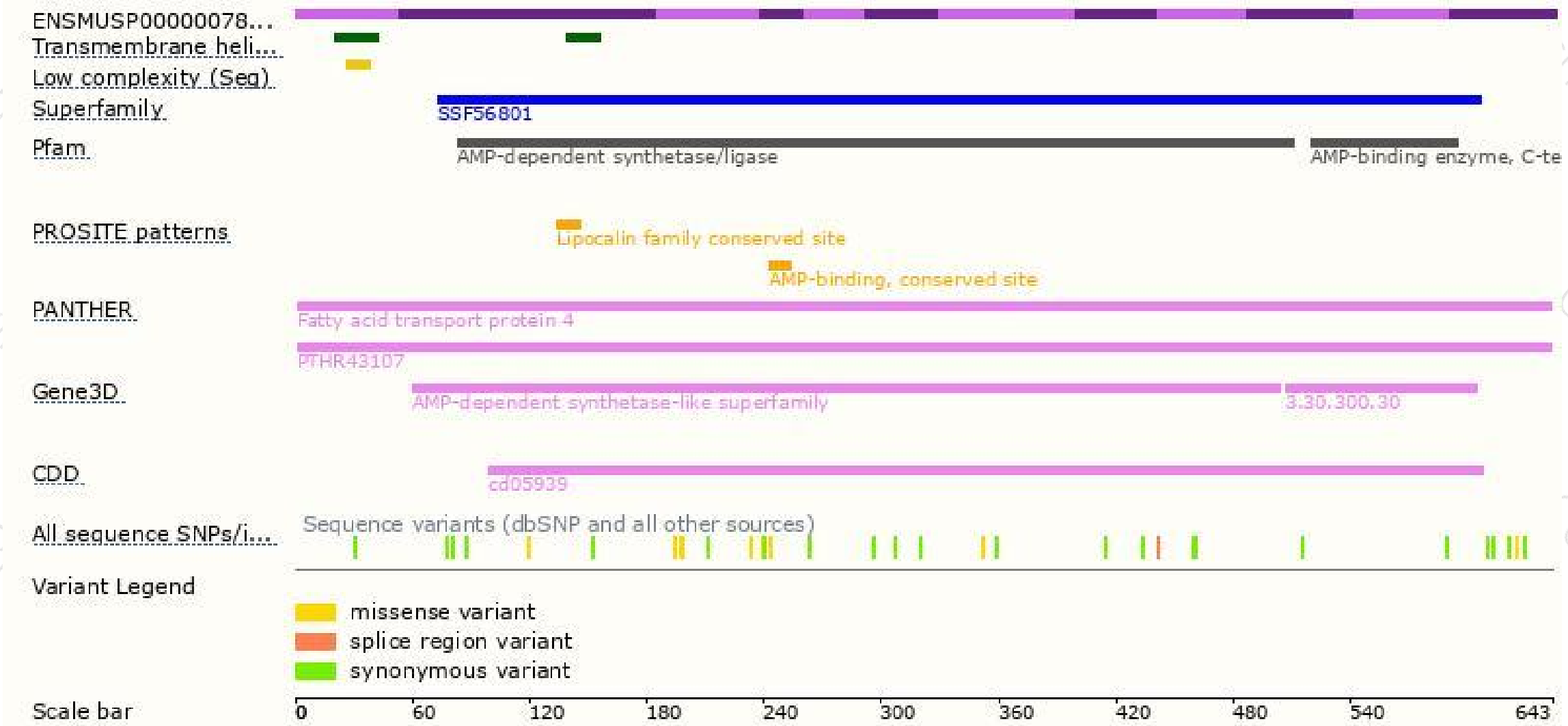
The strategy is based on the design of *Slc27a4-201* transcript,The transcription is shown below



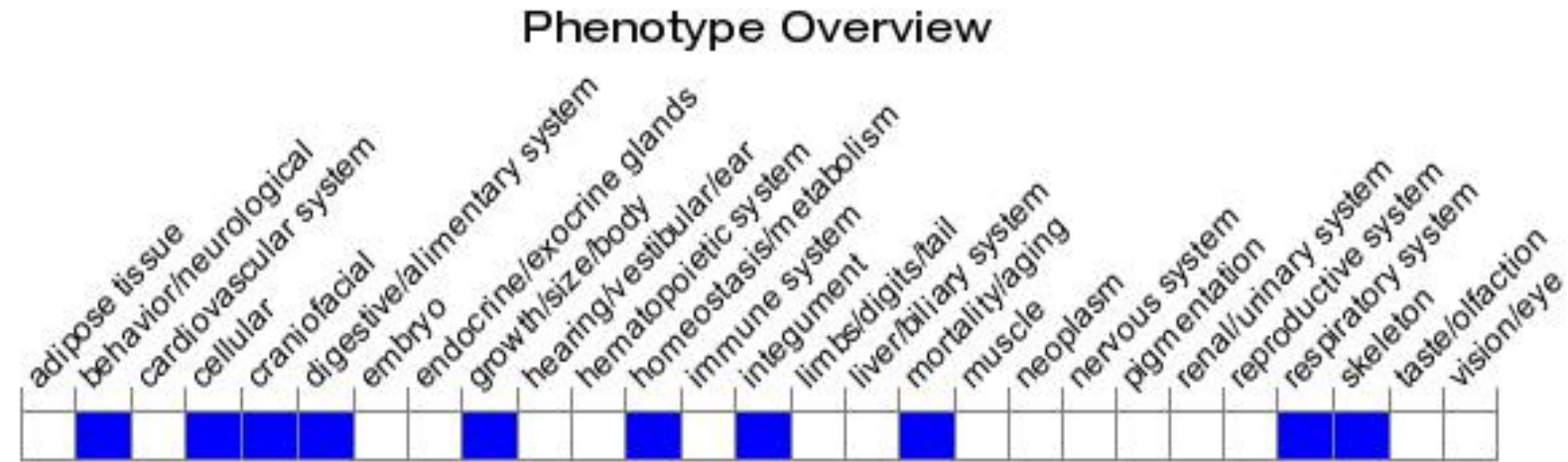
# Genomic location distribution



# 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, Homozygous mutant mice are not viable. While mice of one mutant line die during early development, mice of other mutant lines die at birth exhibiting abnormal skin.

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

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