

***Klhl26* Cas9-CKO Strategy**

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Project Overview

Project Name

Klhl26

Project type

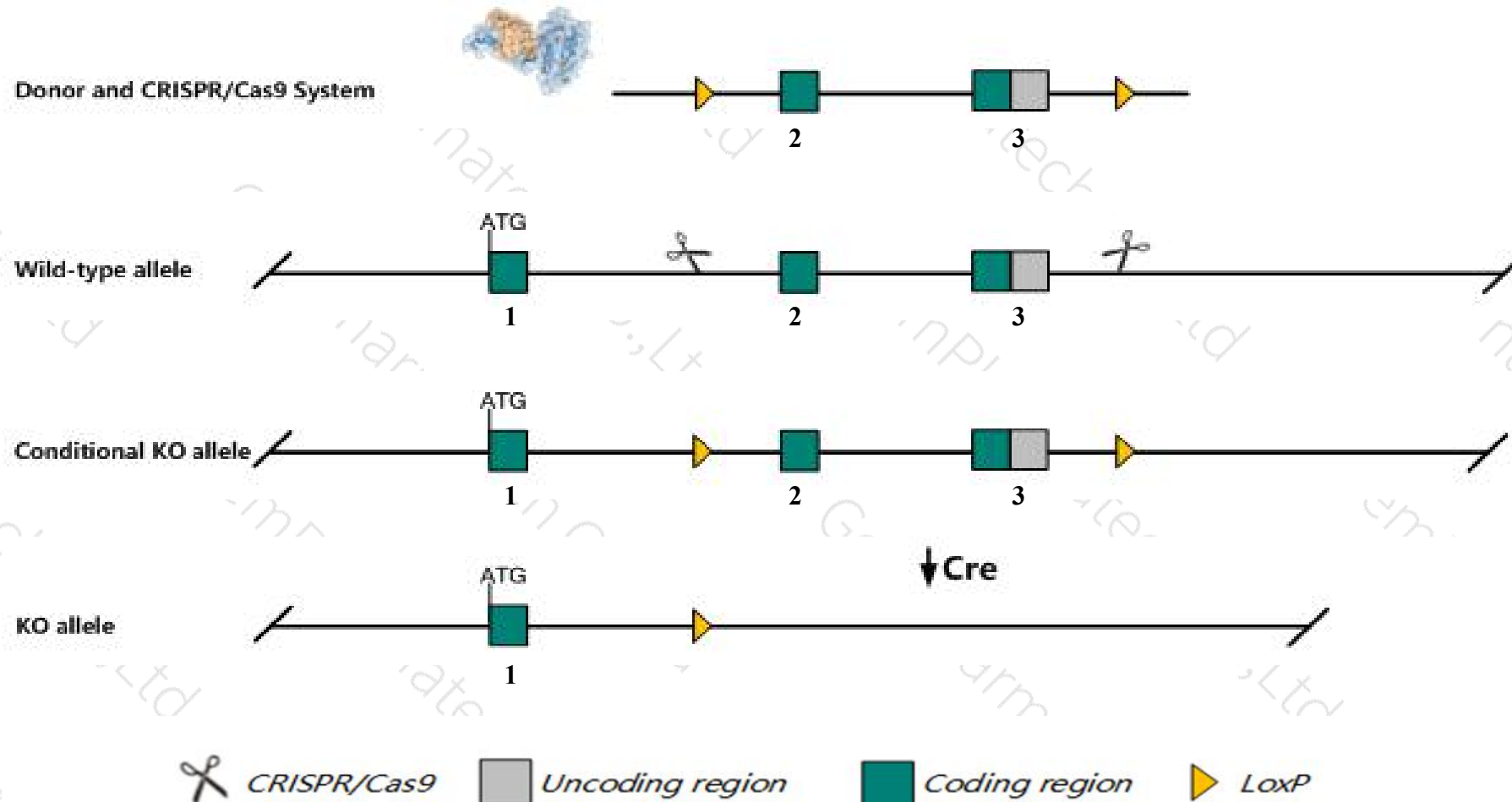
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Klhl26* gene. The schematic diagram is as follows:



- The *Klhl26* gene has 5 transcripts. According to the structure of *Klhl26* gene, exon2-exon3 of *Klhl26-201* (ENSMUST00000066597.12) transcript is recommended as the knockout region. The region contains 1765bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Klhl26* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Klhl26* gene is located on the Chr8. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Klhl26 kelch-like 26 [Mus musculus (house mouse)]

Gene ID: 234378, updated on 31-Jan-2019

Summary



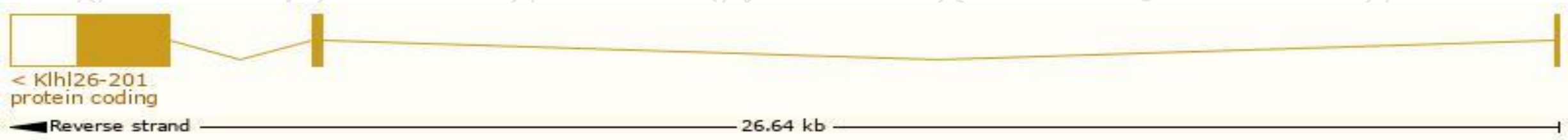
Official Symbol	Klhl26 provided by MGI
Official Full Name	kelch-like 26 provided by MGI
Primary source	MGI:MGI:2443079
See related	Ensembl:ENSMUSG00000055707
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	C630013N10Rik, Kikl26
Expression	Ubiquitous expression in ovary adult (RPKM 51.8), adrenal adult (RPKM 47.8) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

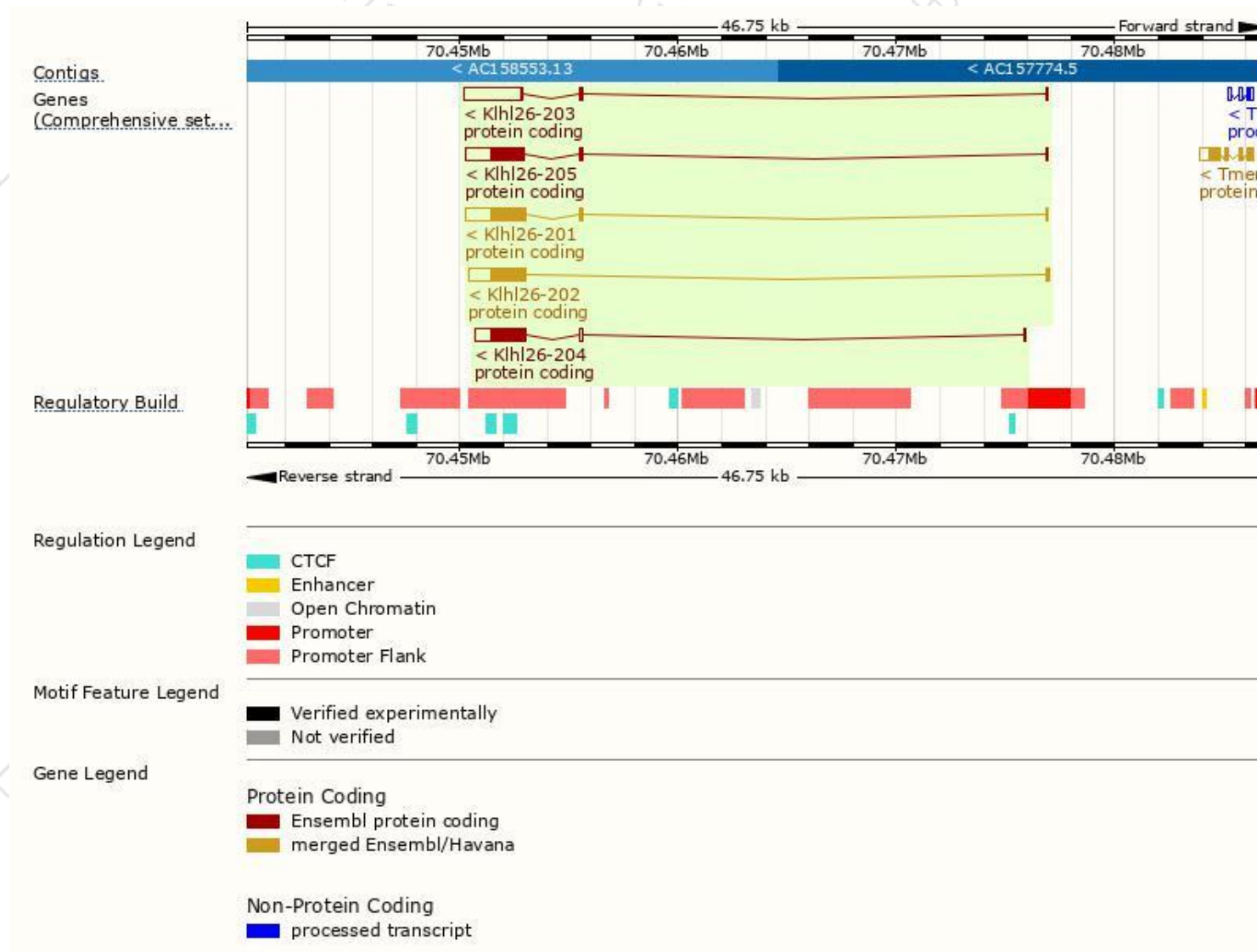
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Klhl26-201	ENSMUST00000066597.12	2991	606aa	Protein coding	CCDS40373	Q8BGY4	TSL:1 GENCODE basic APPRIS P1
Klhl26-202	ENSMUST00000166976.2	2734	545aa	Protein coding	CCDS52573	E9Q4C1	TSL:2 GENCODE basic
Klhl26-205	ENSMUST00000210250.1	2974	572aa	Protein coding	-	Q8BGY4	TSL:1 GENCODE basic
Klhl26-203	ENSMUST00000209415.1	2919	91aa	Protein coding	-	A0A1B0GR96	TSL:1 GENCODE basic
Klhl26-204	ENSMUST00000209567.1	2615	525aa	Protein coding	-	Q8BGY4	TSL:3 GENCODE basic

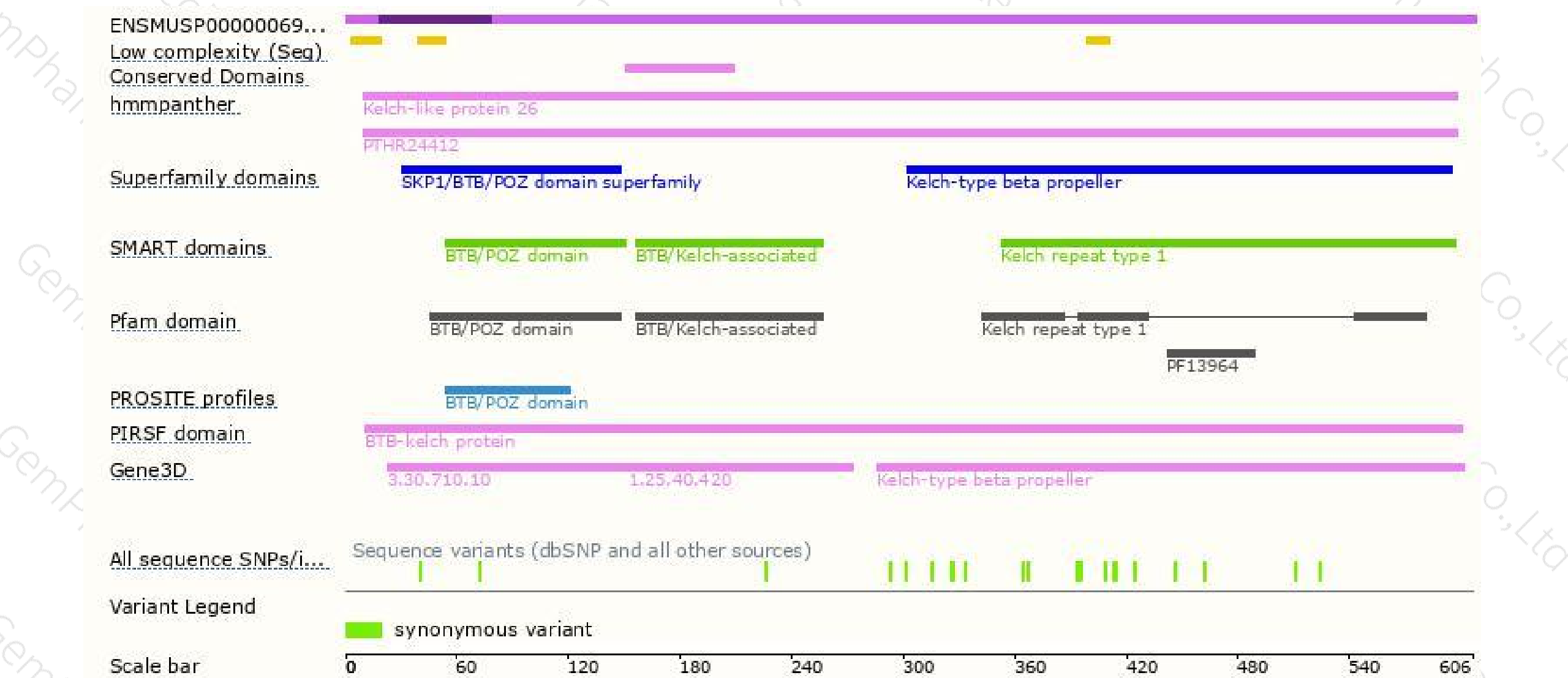
The strategy is based on the design of *Klhl26-201* transcript,The transcription is shown below



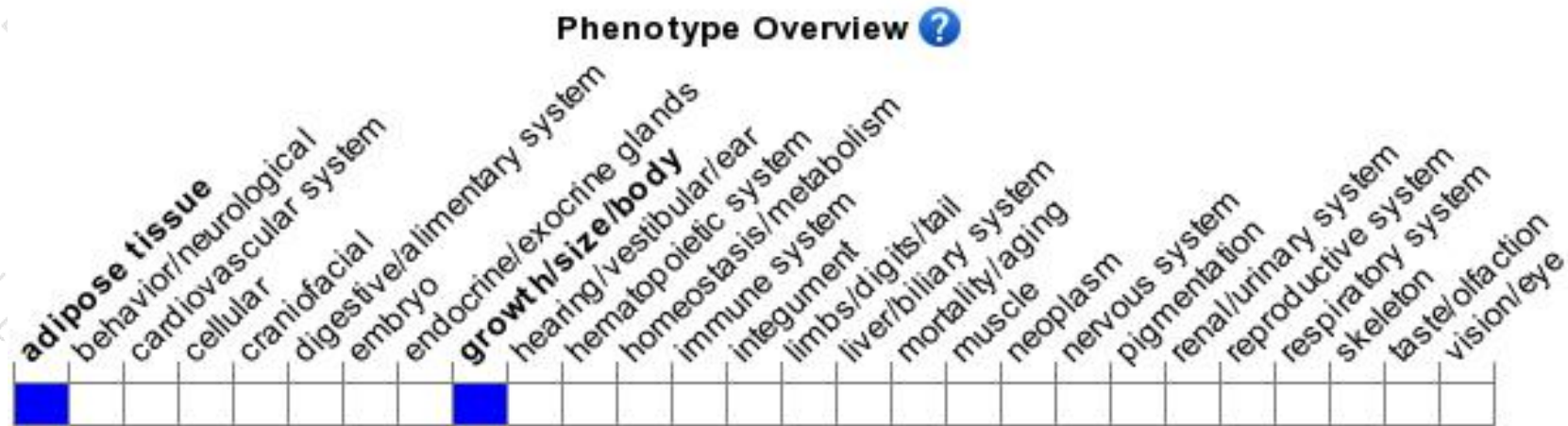
Genomic location distribution



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/>).

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

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