

Clec3b Cas9-KO Strategy

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Design Date: 2019-9-16

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Project Overview



Project Name

Clec3b

Project type

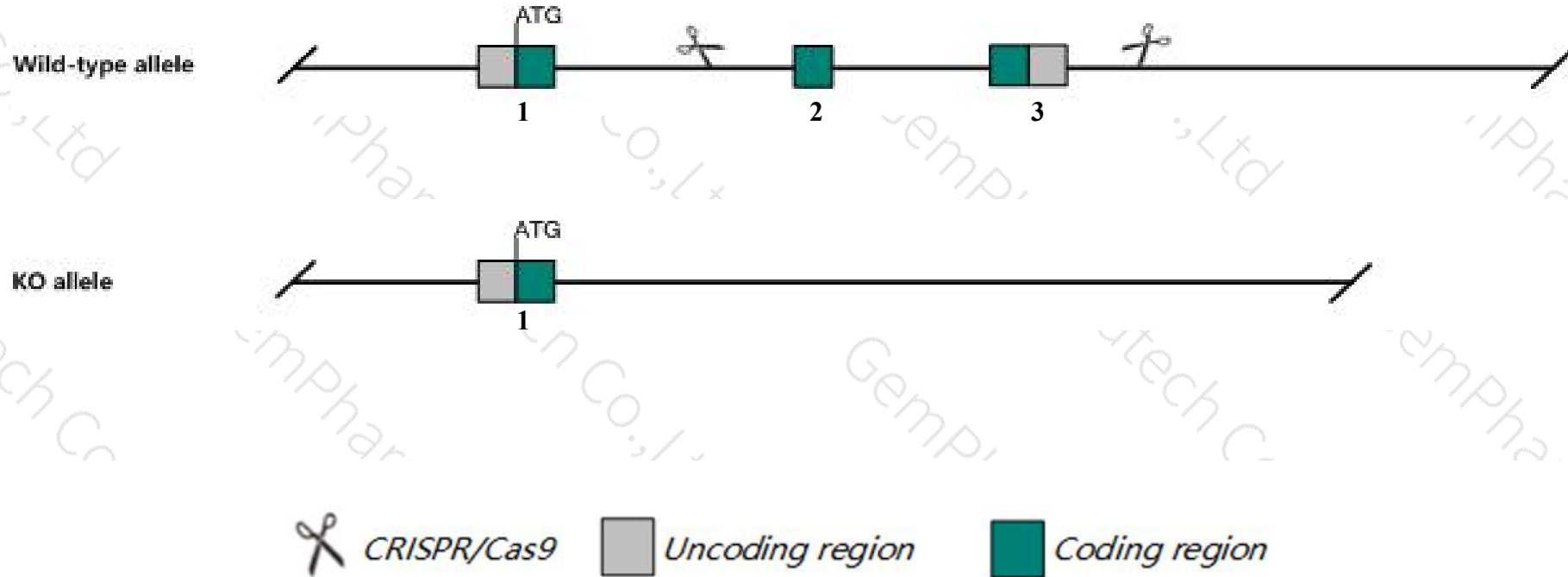
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Clec3b* gene. The schematic diagram is as follows:



- The *Clec3b* gene has 1 transcript. According to the structure of *Clec3b* gene, exon2-exon3 of *Clec3b-201* (ENSMUST00000026890.5) transcript is recommended as the knockout region. The region contains 500bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Clec3b* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a null allele develop pronounced cervical lordosis and thoracic kyphosis associated with wedge-shaped deformities of the vertebrae, growth plate irregularities, and an asymmetric development of the intervertebral disks.
- The *Clec3b* gene is located on the Chr9. 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)

Clec3b C-type lectin domain family 3, member b [Mus musculus (house mouse)]

Gene ID: 21922, updated on 31-Jan-2019

Summary



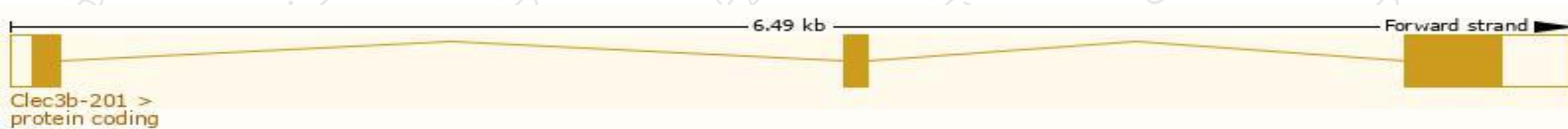
Official Symbol	Clec3b provided by MGI
Official Full Name	C-type lectin domain family 3, member b provided by MGI
Primary source	MGI:MGI:104540
See related	Ensembl:ENSMUSG000000025784
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Tna
Expression	Biased expression in bladder adult (RPKM 244.6), mammary gland adult (RPKM 136.3) and 11 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

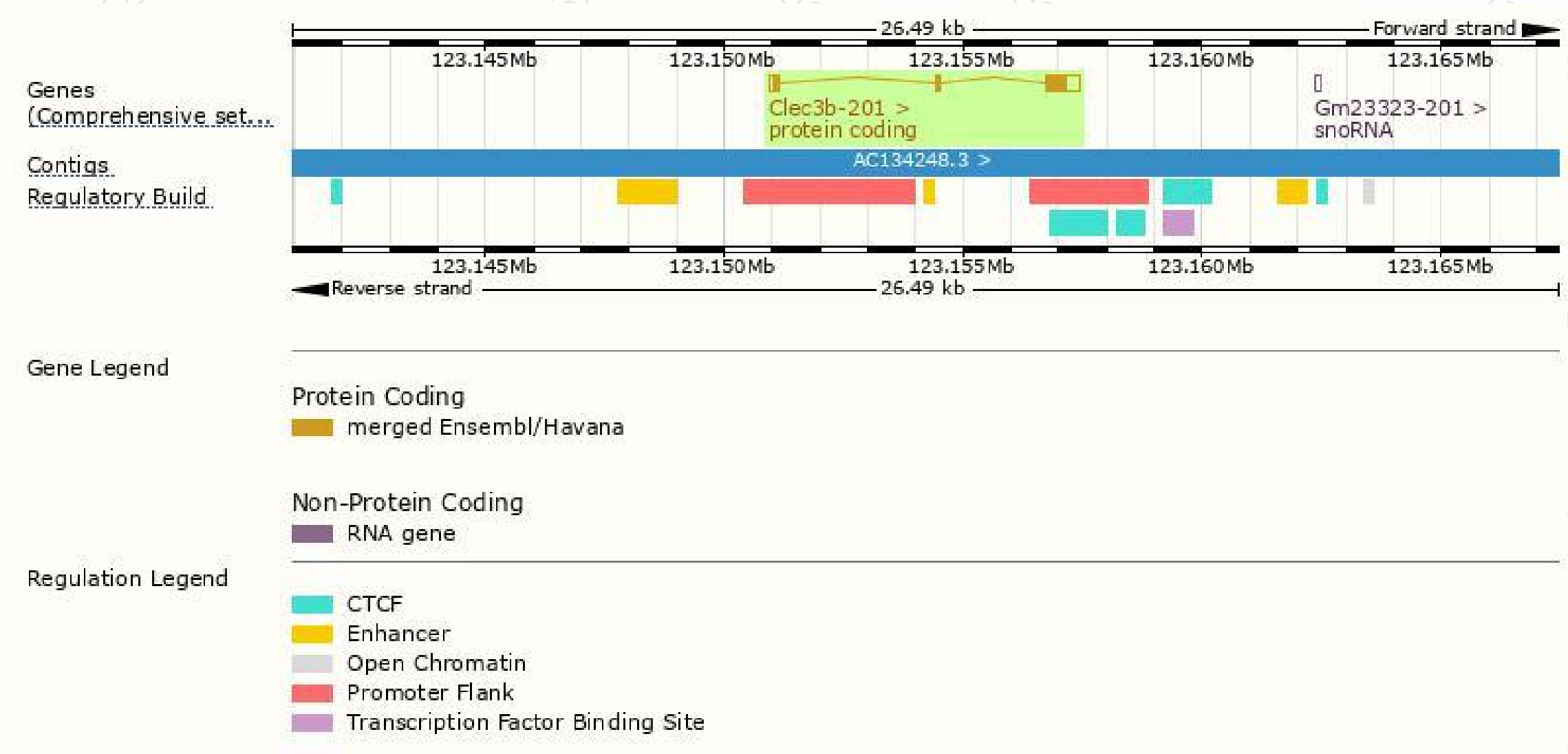
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Clec3b-201	ENSMUST00000026890.5	992	202aa	Protein coding	CCDS23656	Q8CFZ6	TSL:1 GENCODE basic APPRIS P1

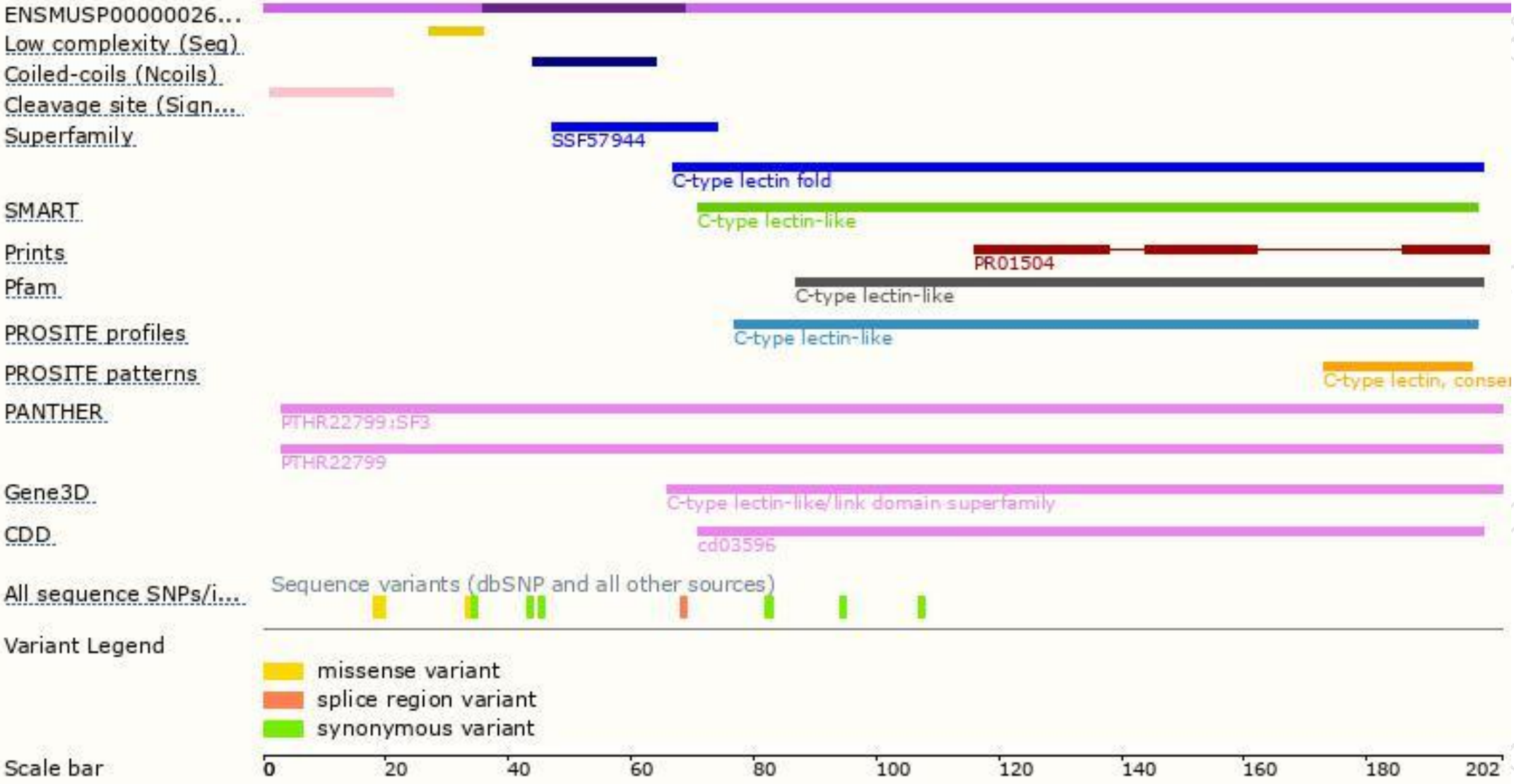
The strategy is based on the design of *Clec3b-201* transcript, The transcription is shown below



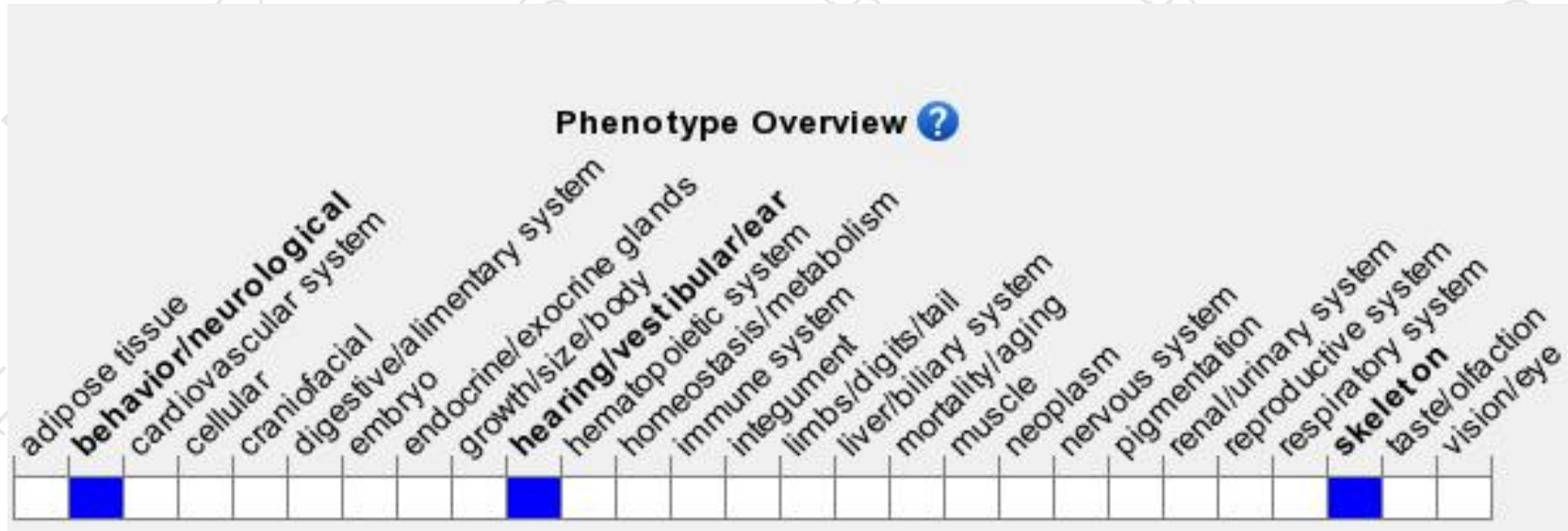
Genomic location distribution



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 allele develop pronounced cervical lordosis and thoracic kyphosis associated with wedge-shaped deformities of the vertebrae, growth plate irregularities, and an asymmetric development of the intervertebral disks.

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

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