Chmp2b Cas9-KO Strategy

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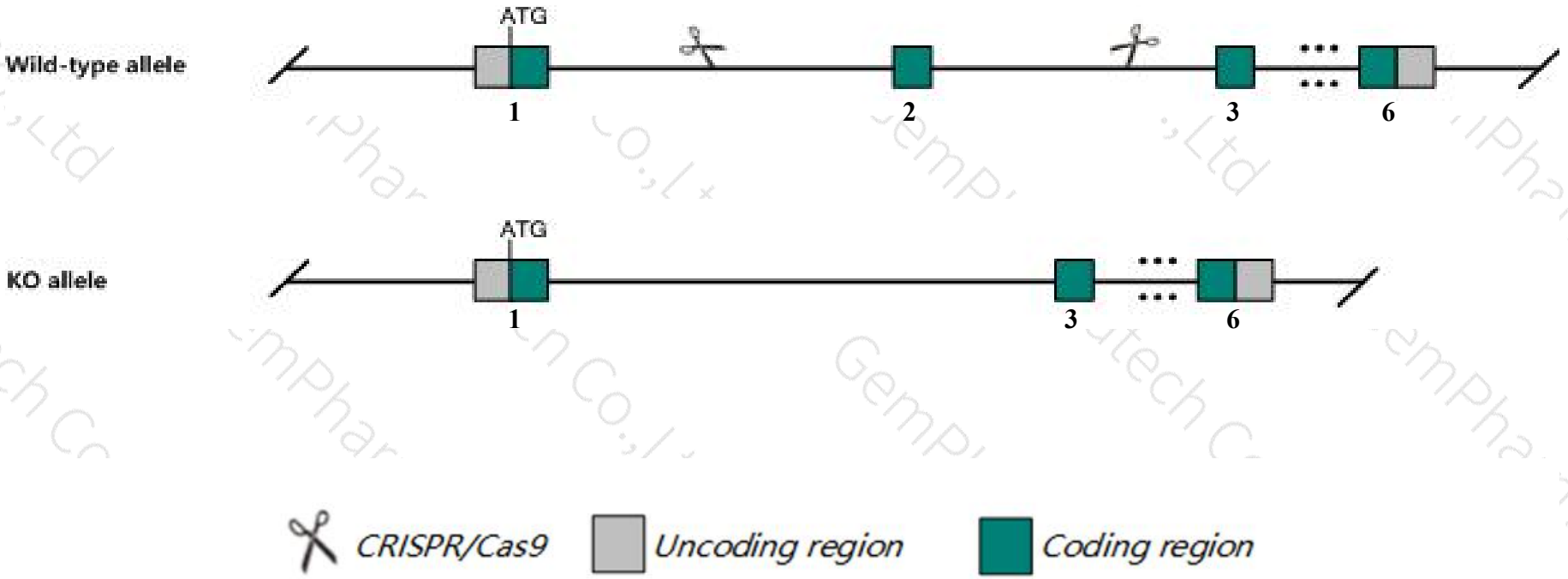
Project Overview

Project Name	***Chmp2b***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Chmp2b* gene. The schematic diagram is as follows:



Technical routes

➢ The *Chmp2b* gene has 2 transcripts. According to the structure of *Chmp2b* gene, exon2 of *Chmp2b-201* (ENSMUST00000004965.7) transcript is recommended as the knockout region.The region contains 92bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Chmp2b* gene. The brief process is as follows: CRISPR/Cas9 syste

Notice

- According to the existing MGI data,Mice homozygous for a hypomorphic gene trapped allele display reduced dendritic spine and excitatory synapse density in the hippocampus.

- The *Chmp2b* gene is located on the Chr16. 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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Chmp2b charged multivesicular body protein 2B [Mus musculus (house mouse)]

Gene ID: 68942, updated on 10-Feb-2019

Summary

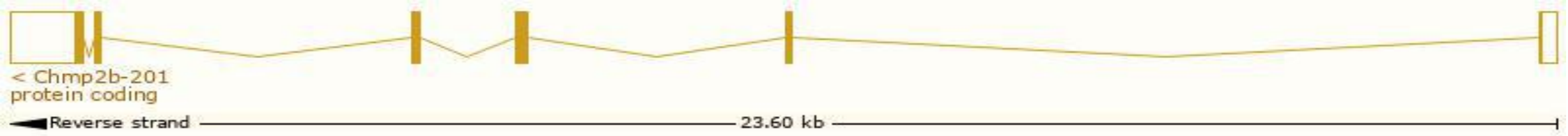
Official Symbol	Chmp2b provided by MGI
Official Full Name	charged multivesicular body protein 2B provided by MGI
Primary source	MGI:MGI:1916192
See related	Ensembl:ENSMUSG00000004843
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1190006E07Rik
Expression	Ubiquitous expression in bladder adult (RPKM 28.8), duodenum adult (RPKM 25.1) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

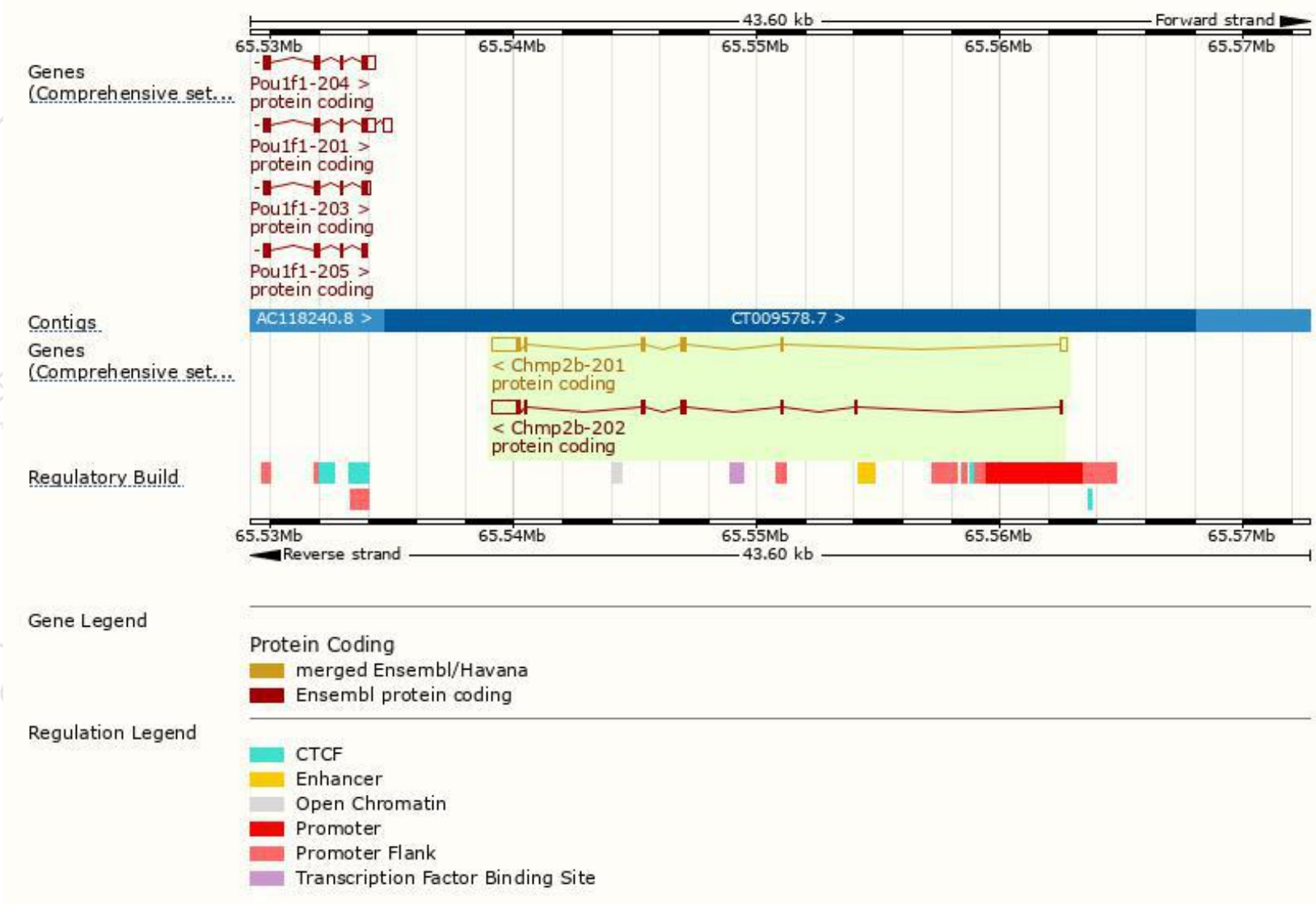
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Chmp2b-201	ENSMUST00000004965.7	1872	213aa	Protein coding	CCDS28269	Q8BJF9	TSL:1 GENCODE basic APPRIS P1
Chmp2b-202	ENSMUST00000231259.1	1722	209aa	Protein coding	-	A0A338P7L8	GENCODE basic

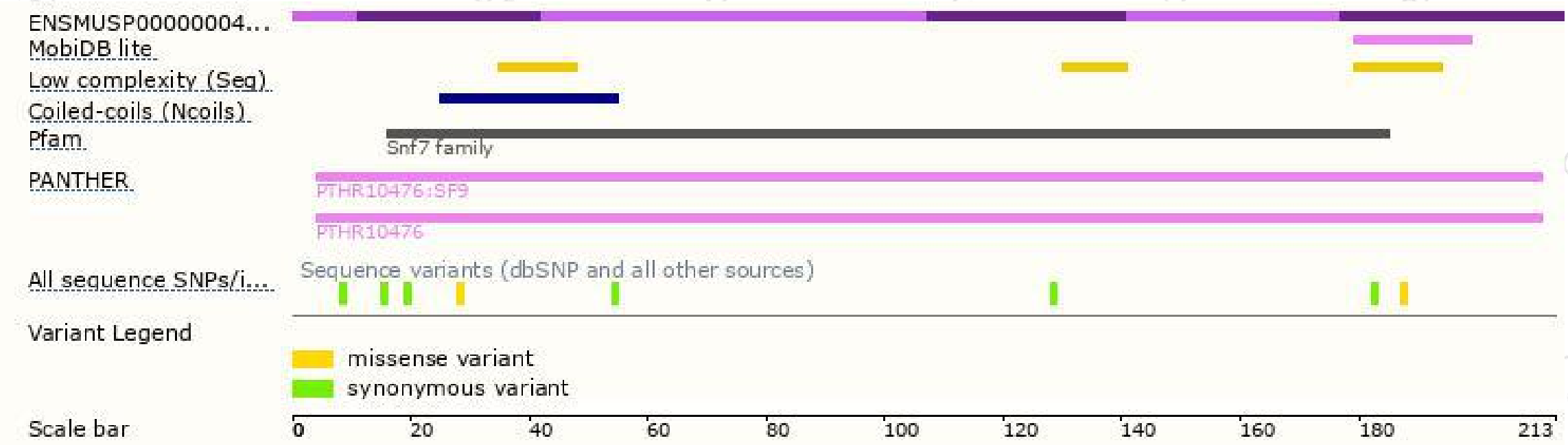
The strategy is based on the design of *Chmp2b-201* transcript,The transcription is shown below



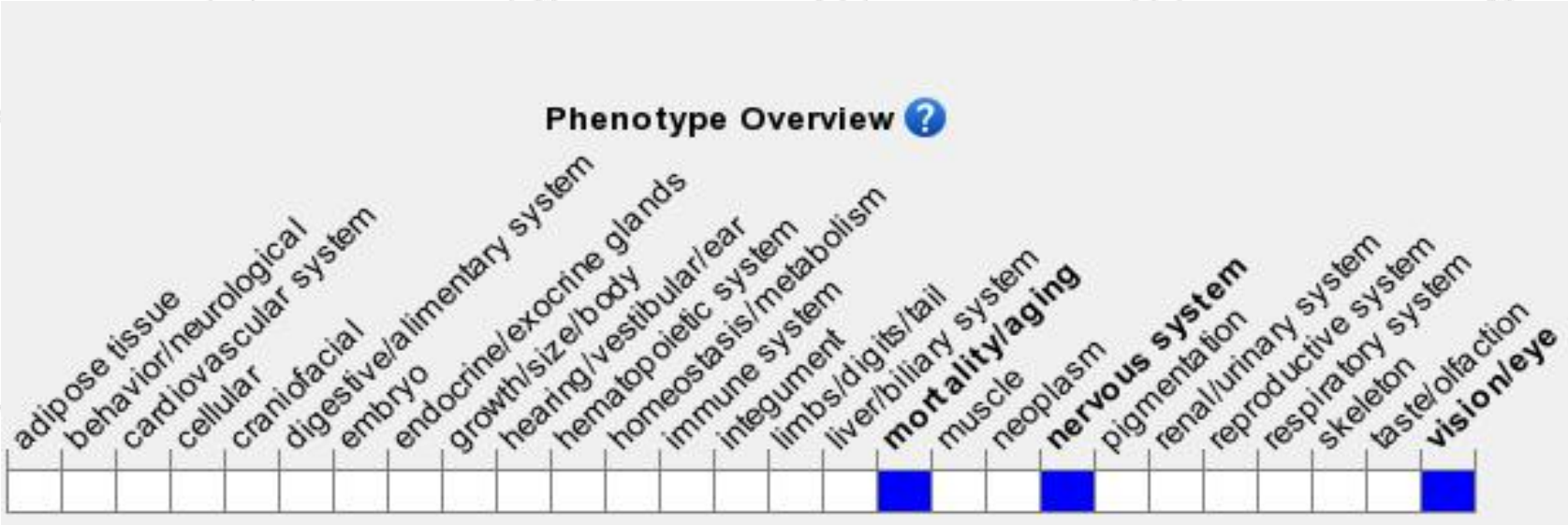
Genomic location distribution



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/).

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

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