Ube2g1 Cas9-KO Strategy

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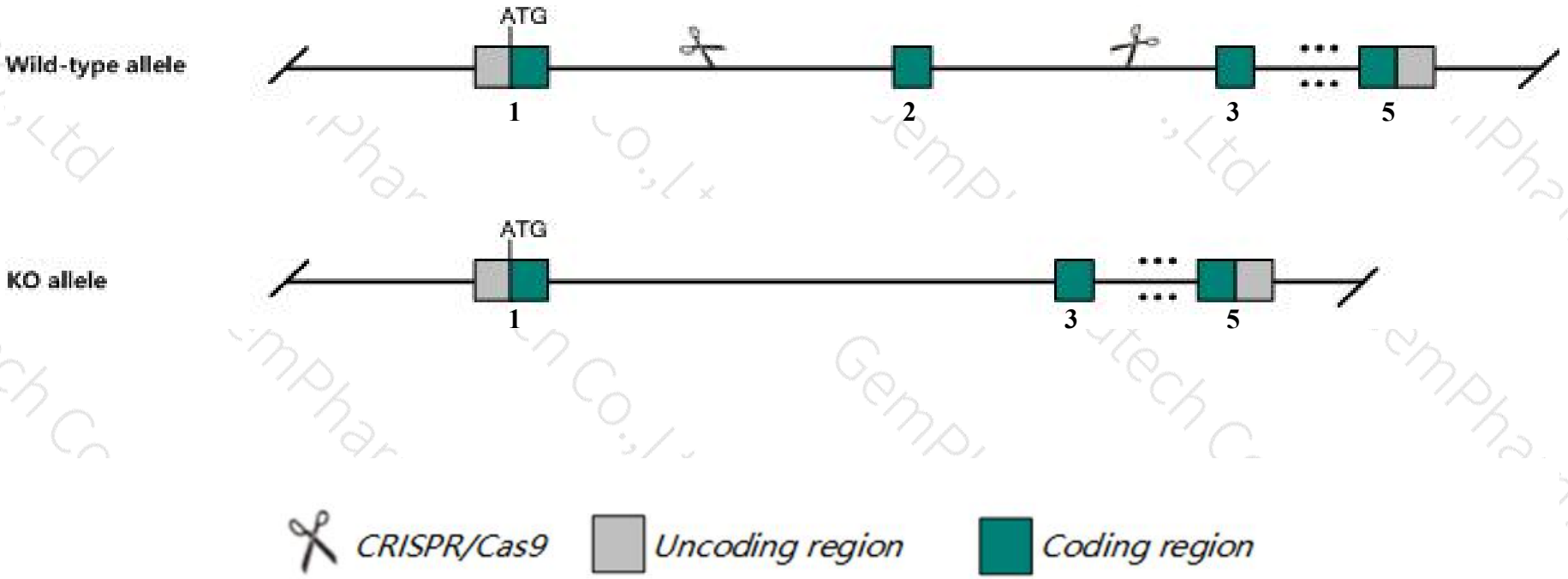
Project Overview

Project Name	***Ube2g1***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ube2g1* gene. The schematic diagram is as follows:



Technical routes

➢ The *Ube2g1* gene has 3 transcripts. According to the structure of *Ube2g1* gene, exon2 of *Ube2g1-201* (ENSMUST00000021148.12) transcript is recommended as the knockout region.The region contains 103bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Ube2g1* gene. The brief process is as follows: CRISPR/Cas9 syste

Notice

➢ The *Ube2g1* gene is located on the Chr11. 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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Ube2g1 ubiquitin-conjugating enzyme E2G 1 [Mus musculus (house mouse)]

Gene ID: 67128, updated on 31-Jan-2019

Summary

Official Symbol	Ube2g1 provided by MGI
Official Full Name	ubiquitin-conjugating enzyme E2G 1 provided by MGI
Primary source	MGI:MGI:1914378
See related	Ensembl:ENSMUSG00000020794
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	2700059C12Rik, AI256795, AU014992, AW552068, D130023C12Rik
Expression	Ubiquitous expression in CNS E14 (RPKM 13.9), whole brain E14.5 (RPKM 13.6) and 28 other tissues See more
Orthologs	human all

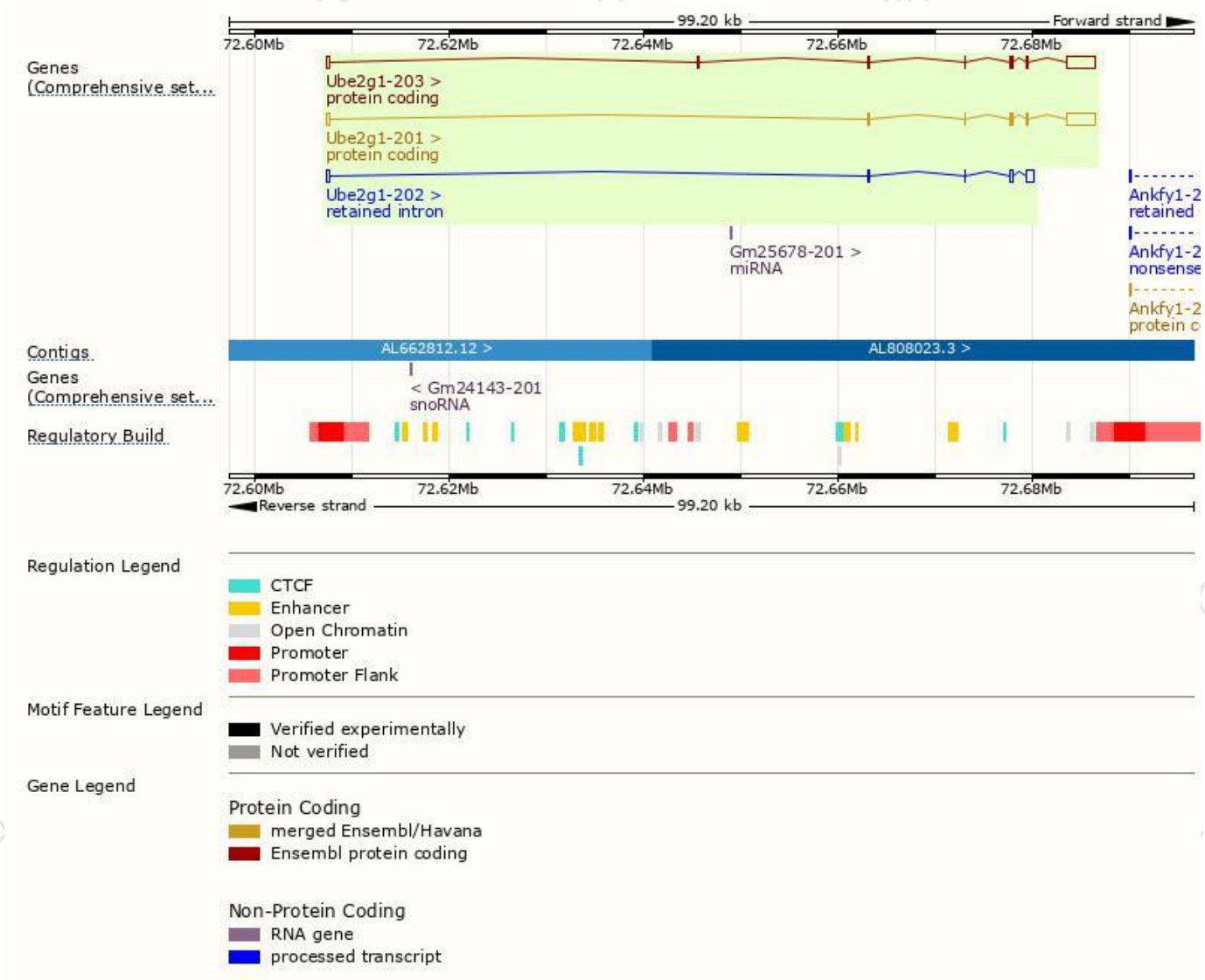
Transcript information（Ensembl）

The gene has 3 transcripts,all transcripts are shown below:

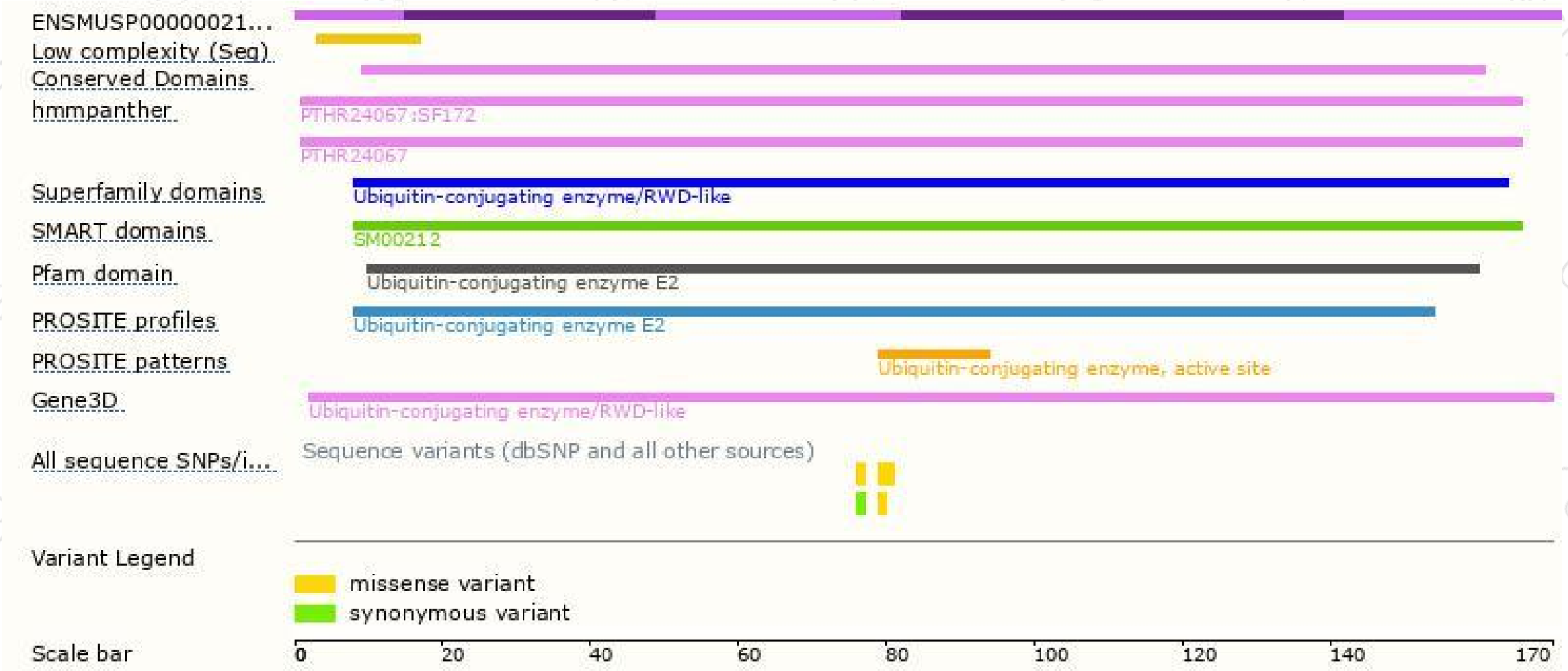
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ube2g1-201	ENSMUST00000021148.12	3815	170aa	Protein coding	CCDS36217	P62254 Q5F239	TSL:1 GENCODE basic APPRIS P1
Ube2g1-203	ENSMUST00000138247.7	3931	99aa	Protein coding	-	D6RES1	TSL:1 GENCODE basic
Ube2g1-202	ENSMUST00000126046.1	1469	No protein	Retained intron	-	-	TSL:1

The strategy is based on the design of *Ube2g1-201* transcript,The transcription is shown below

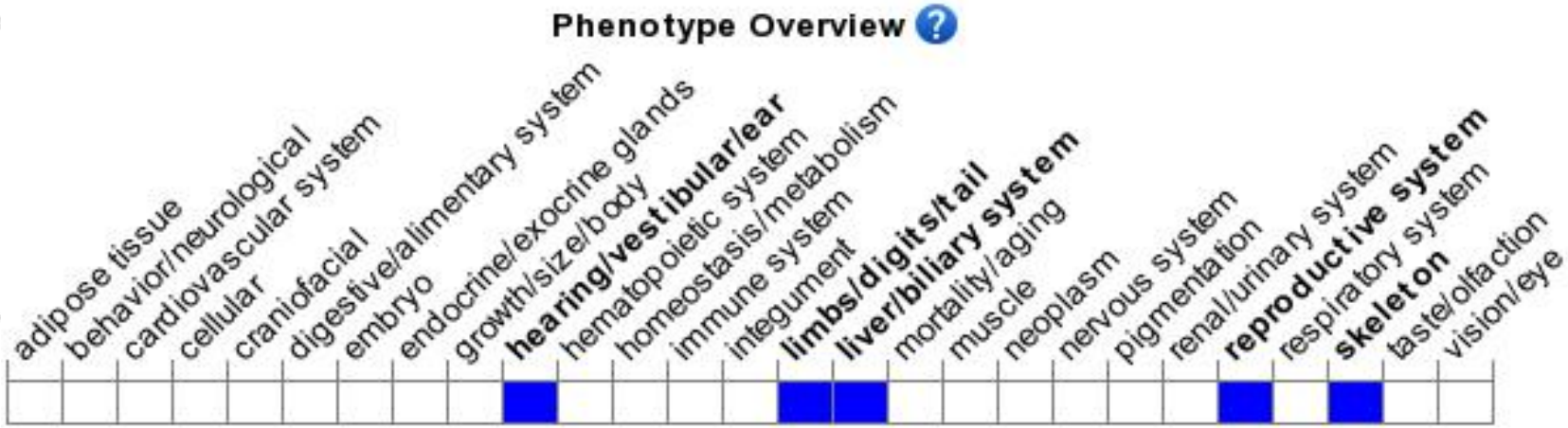
Genomic location distribution



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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