

Otud6A Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Otud6A

Project type

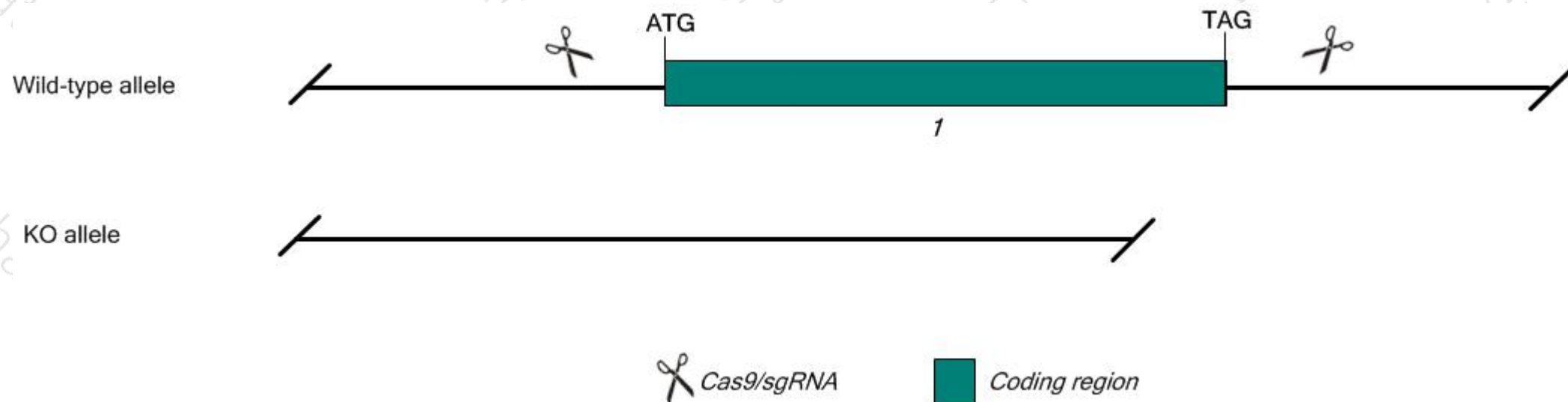
Cas9-KO

Strain background

C57BL/6J

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Otud6A* gene. The schematic diagram is as follows:



- The *Otud6A* gene has 1 transcript. According to the structure of *Otud6A* gene, exon1 of *Otud6A*-201 (ENSMUST00000060241.2) transcript is recommended as the knockout region. The region contains all coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Otud6A* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6J 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/6J mice.

- The *Otud6A* gene is located on the ChrX. 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 gene transcription and translation processes, all risks cannot be predicted under existing information.

Otud6a OTU domain containing 6A [*Mus musculus* (house mouse)]

Gene ID: 408193, updated on 20-Feb-2019

Summary

Official Symbol	Otud6a provided by MGI
Official Full Name	OTU domain containing 6A provided by MGI
Primary source	MGI:MGI:3644685
See related	Ensembl:ENSMUSG000000051582
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	Hshin6; EG408193
Orthologs	human all

Transcript information (Ensembl)

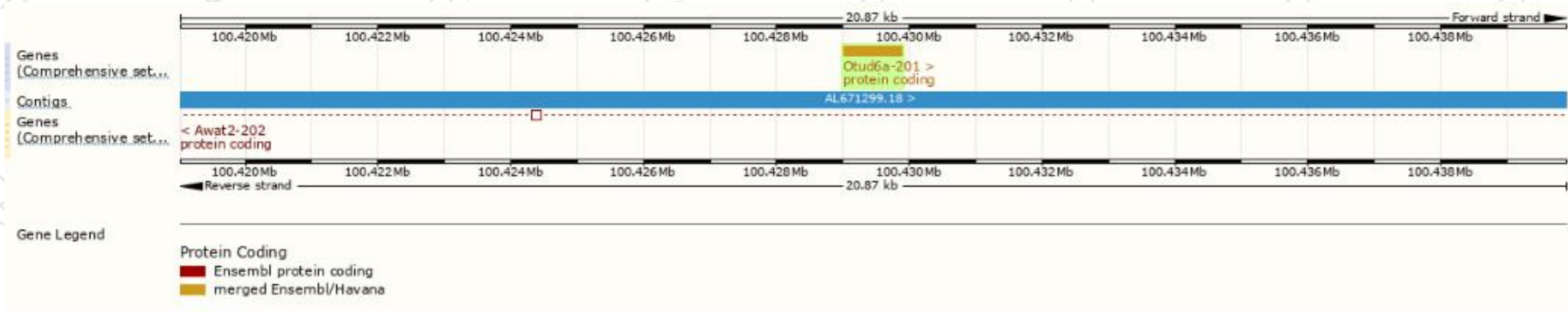
The gene has 1 transcript, and all transcripts are shown below :

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Otud6a-201	ENSMUST00000060241.2	873	290aa	Protein coding	CCDS53146	Q6IE21	TSL:NA Gencode basic APPRIS P1

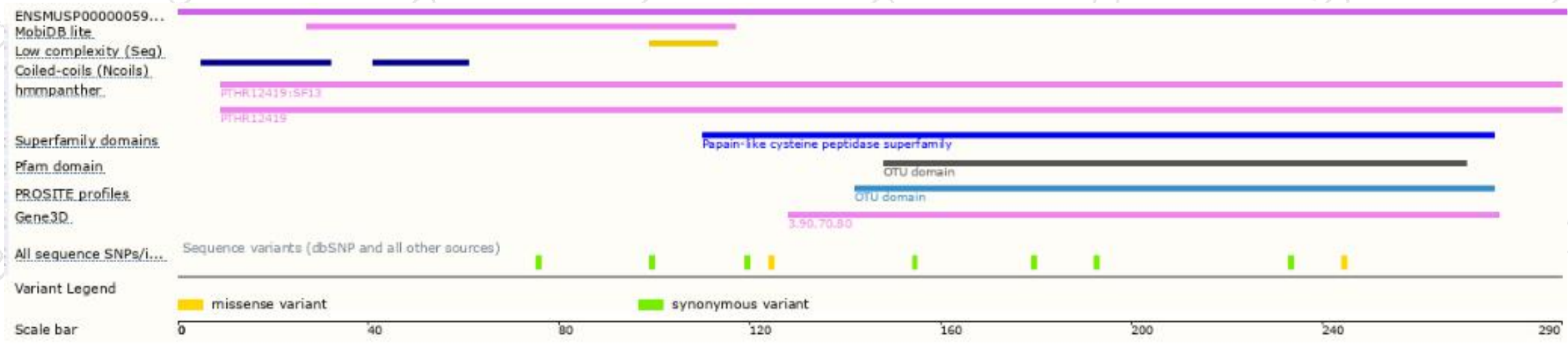
The strategy is based on the design of *Otud6A-201* transcript, The transcription is shown below



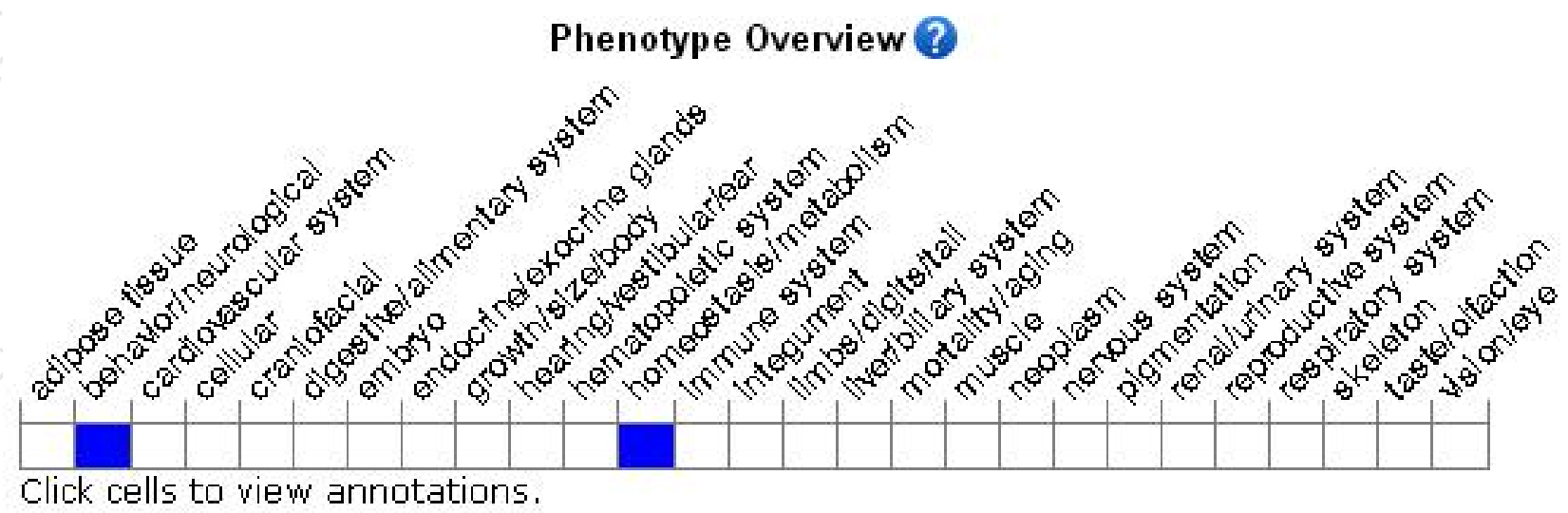
Genomic location (Ensembl)



Protein domain (Ensembl)



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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