

Dennd6a Cas9-KO Strategy

Designer:Xiaojing Li

Reviewer:JiaYu

Design Date:2020-3-23

Project Overview

Project Name

Dennd6a

Project type

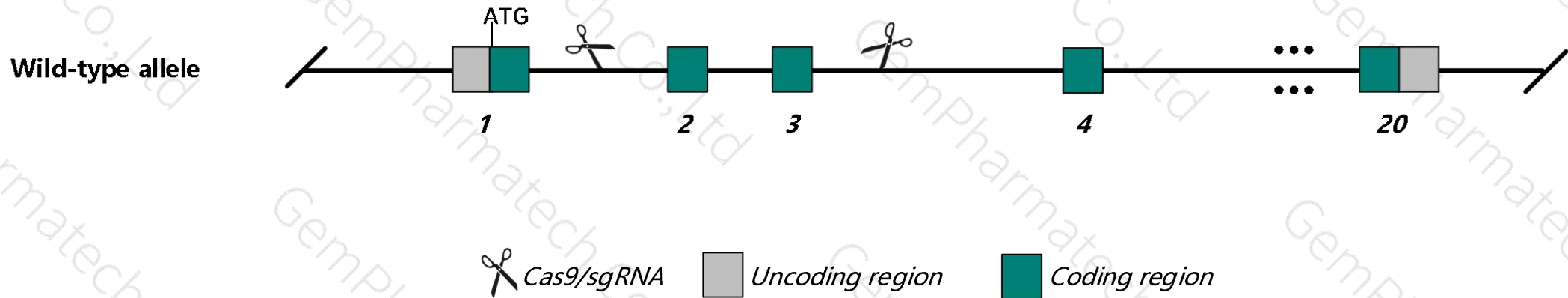
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dennd6a* gene. The schematic diagram is as follows:



- The *Dennd6a* gene has 6 transcripts. According to the structure of *Dennd6a* gene, exon2-exon3 of *Dennd6a-201* (ENSMUST00000078953.8) transcript is recommended as the knockout region. The region contains 82bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dennd6a* gene. The brief process is as follows: CRISPR/Cas9 syst

- The *Dennd6a* gene is located on the Chr15. 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)

Dennd6b DENN/MADD domain containing 6B [*Mus musculus* (house mouse)]

Gene ID: 69440, updated on 13-Mar-2020

Summary

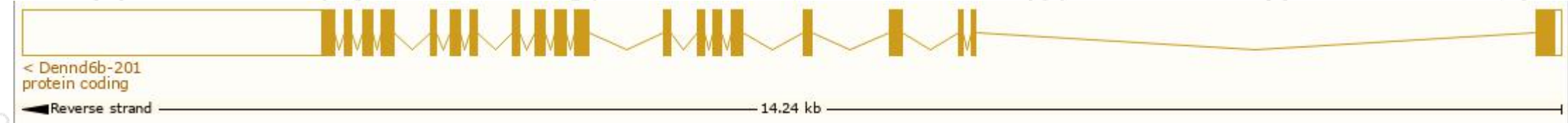
Official Symbol	Dennd6b provided by MGI
Official Full Name	DENN/MADD domain containing 6B provided by MGI
Primary source	MGI:MGI:1916690
See related	Ensembl:ENSMUSG00000015377
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Fam116b; AI414881; 1700027J05Rik
Expression	Broad expression in CNS E18 (RPKM 33.8), cerebellum adult (RPKM 32.4) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

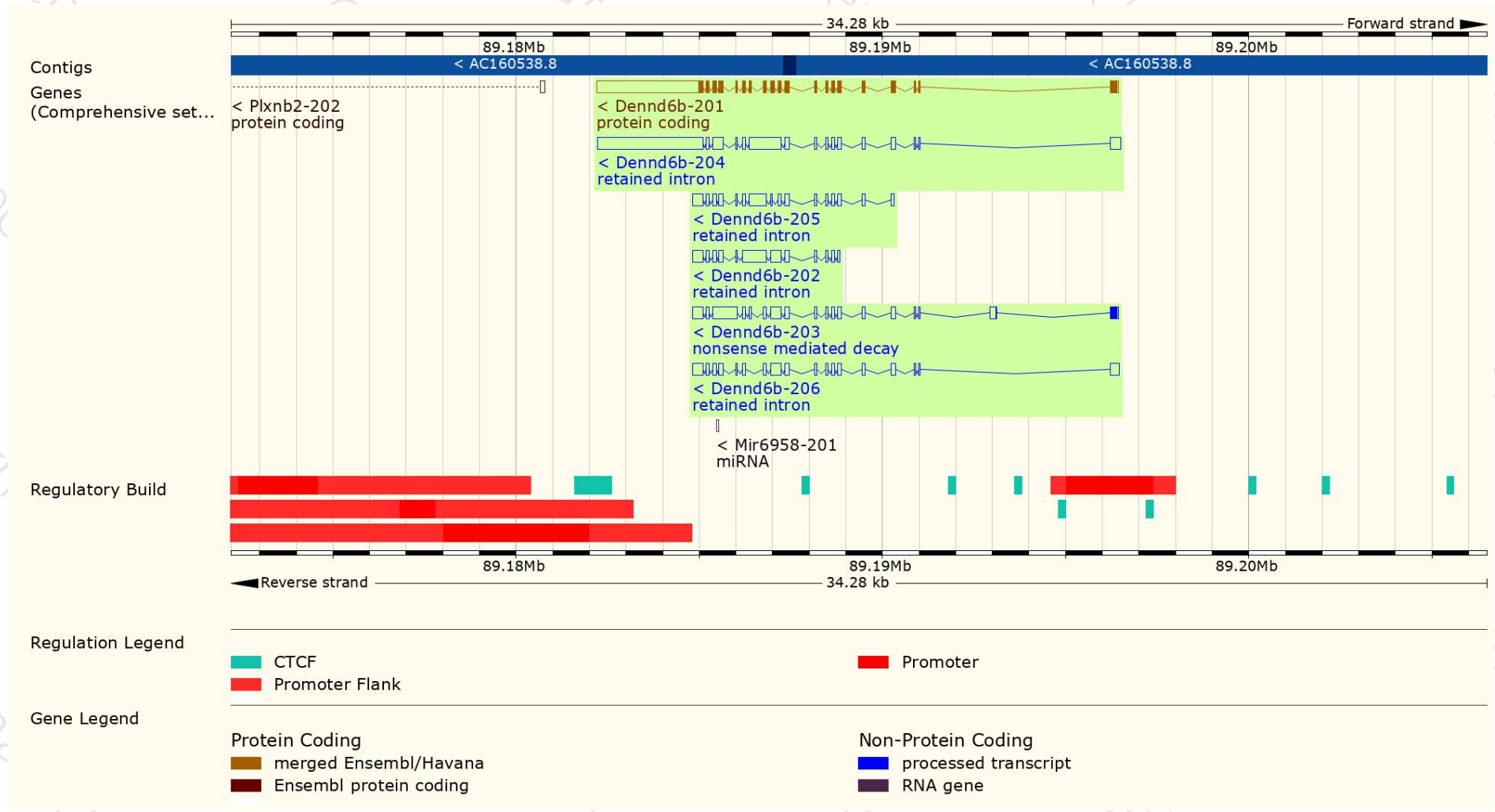
The gene has 6 transcripts,all transcripts are shown below:

Name ▲	Transcript ID ▲	bp ▲	Protein ▲	Biotype ▲	CCDS ▲	UniProt ▲	Flags ▲
Dennd6b-201	ENSMUST00000078953.8	4585	585aa	Protein coding	CCDS57000	Q9D9V7	TSL:1 GENCODE basic APPRIS P1
Dennd6b-202	ENSMUST00000229416.1	1969	No protein	Retained intron	-	-	-
Dennd6b-203	ENSMUST00000229755.1	2677	64aa	Nonsense mediated decay	-	A0A2R8VKJ9	-
Dennd6b-204	ENSMUST00000229935.1	5261	No protein	Retained intron	-	-	-
Dennd6b-205	ENSMUST00000230111.1	1904	No protein	Retained intron	-	-	-
Dennd6b-206	ENSMUST00000230823.1	2028	No protein	Retained intron	-	-	-

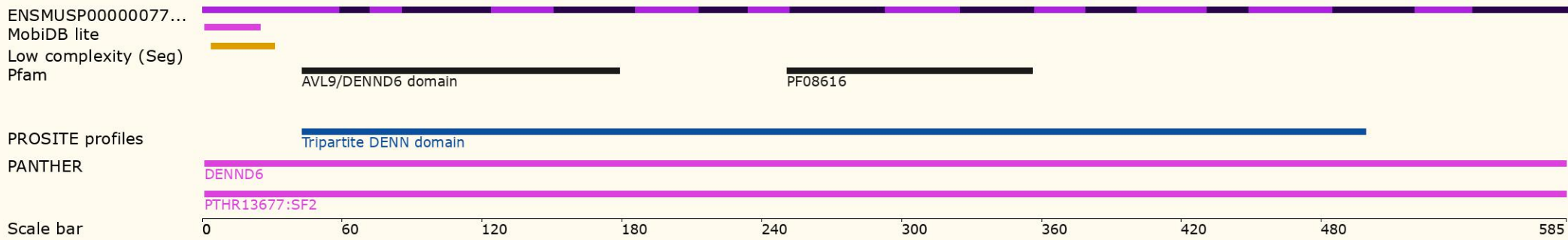
The strategy is based on the design of *Dennd6b-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

