

Dennd3 Cas9-KO Strategy

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Design Date: 2019-7-31

Project Overview

Project Name

Dennd3

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dennd3* gene. The schematic diagram is as follows:



- The *Dennd3* gene has 7 transcripts. According to the structure of *Dennd3* gene, exon2-exon4 of *Dennd3-201* (ENSMUST00000043414.11) transcript is recommended as the knockout region. The region contains 527bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dennd3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Dennd3* 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)

Dennd3 DENN/MADD domain containing 3 [Mus musculus (house mouse)]

Gene ID: 105841, updated on 31-Jan-2019

Summary



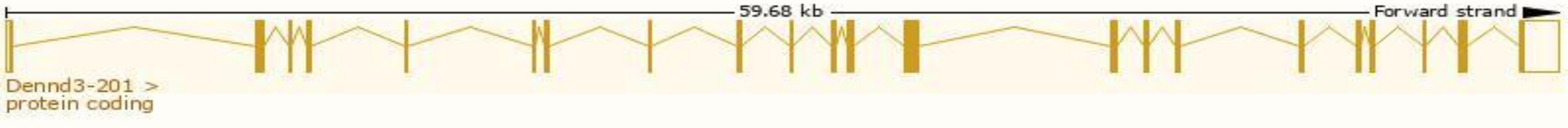
Official Symbol	Dennd3 provided by MGI
Official Full Name	DENN/MADD domain containing 3 provided by MGI
Primary source	MGI:MGI:2146009
See related	Ensembl:ENSMUSG00000036661
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI447457, E030003N15Rik
Expression	Broad expression in lung adult (RPKM 25.2), spleen adult (RPKM 16.5) and 19 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

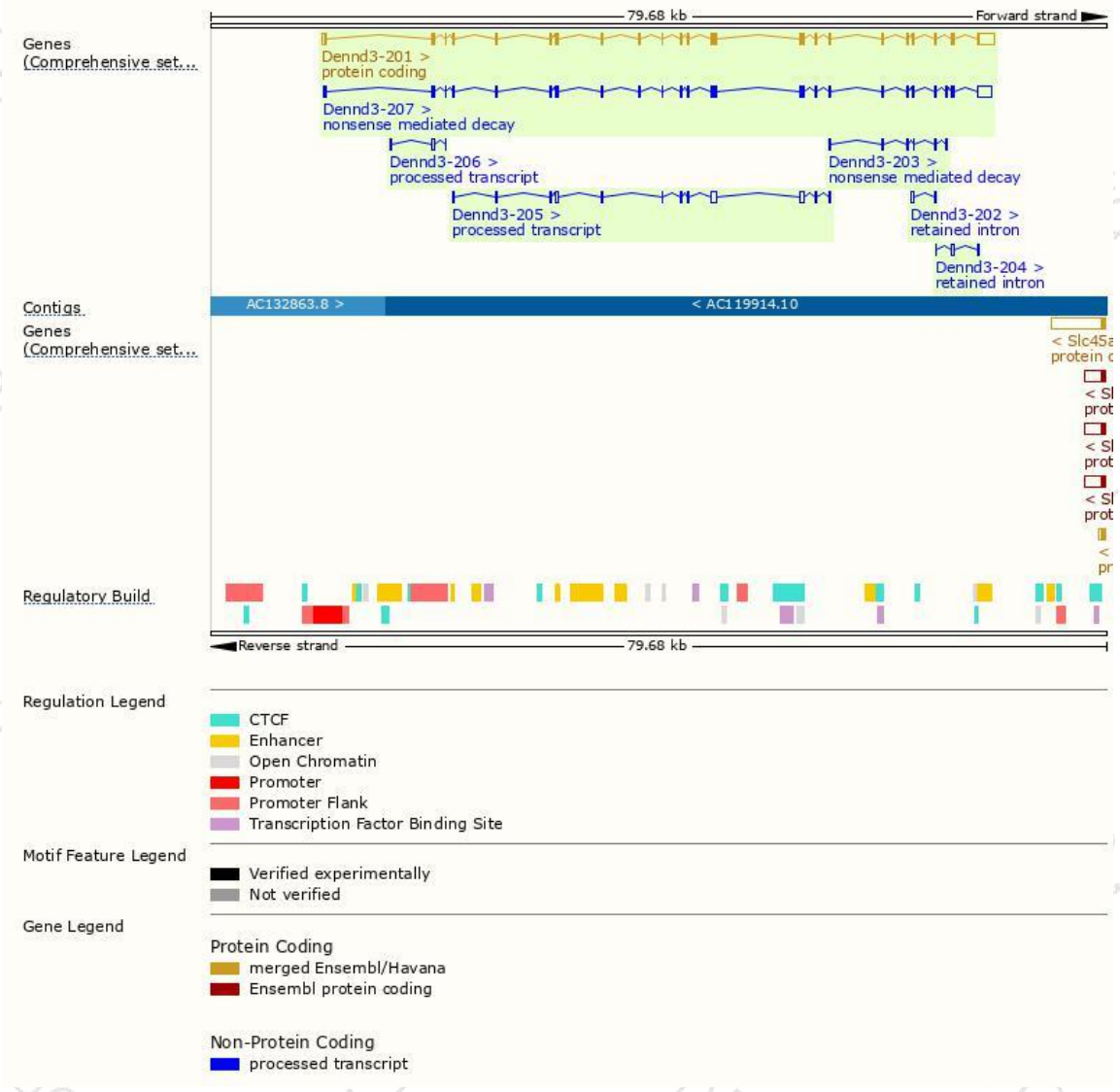
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dennd3-201	ENSMUST00000043414.11	5299	1274aa	Protein coding	CCDS37100	A2RT67	TSL:1 GENCODE basic APPRIS P1
Dennd3-207	ENSMUST00000173292.7	5172	1139aa	Nonsense mediated decay	-	G3UYA1	TSL:1
Dennd3-203	ENSMUST00000160267.2	658	134aa	Nonsense mediated decay	-	F6SUD2	CDS 5' incomplete TSL:3
Dennd3-205	ENSMUST00000162488.8	2197	No protein	Processed transcript	-	-	TSL:5
Dennd3-206	ENSMUST00000162824.1	424	No protein	Processed transcript	-	-	TSL:5
Dennd3-204	ENSMUST00000160727.1	559	No protein	Retained intron	-	-	TSL:3
Dennd3-202	ENSMUST00000159322.1	357	No protein	Retained intron	-	-	TSL:3

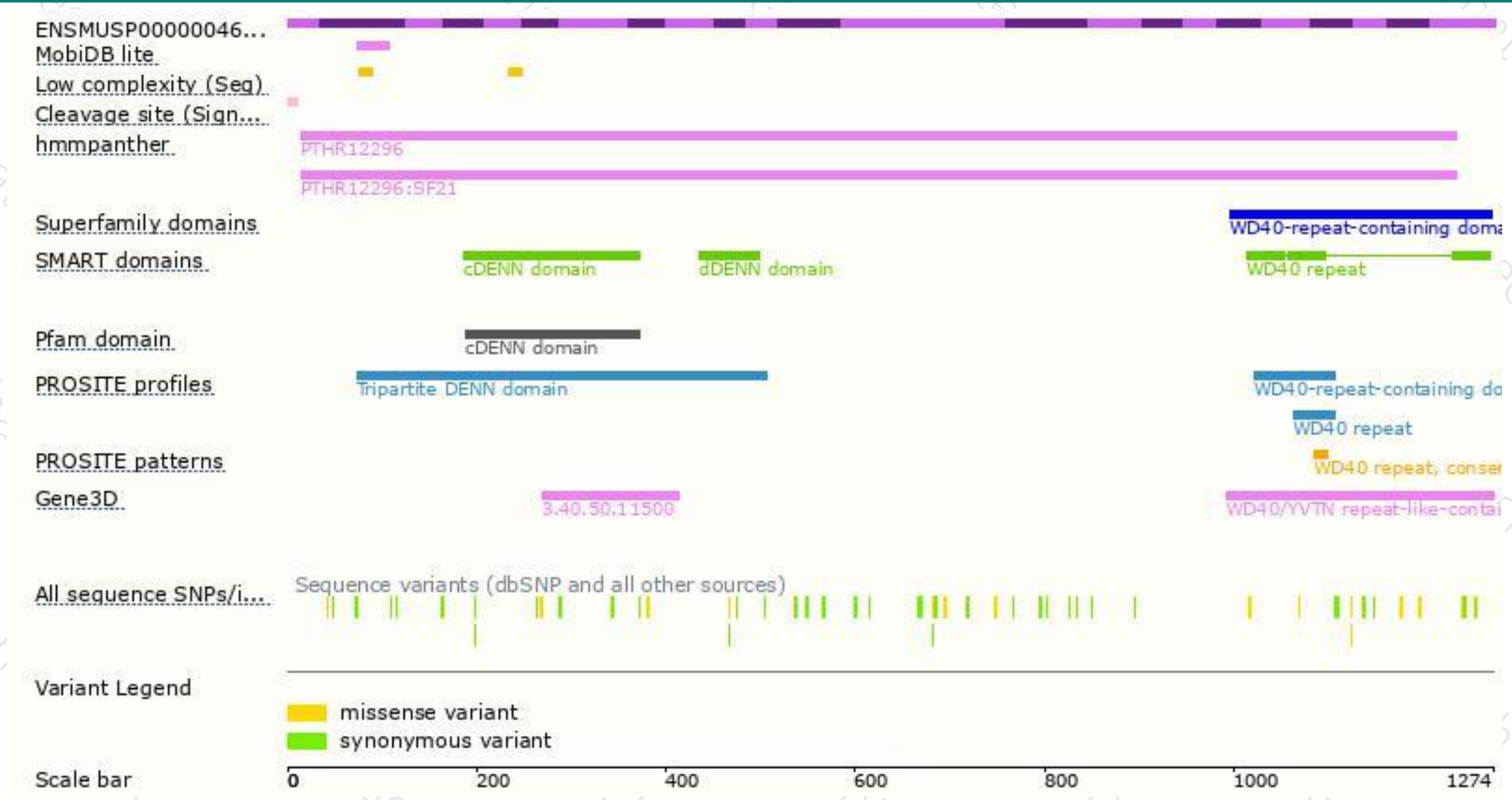
The strategy is based on the design of *Dennd3-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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