

Daam2 Cas9-KO Strategy

Designer:

JiaYu

Reviewer:

Xiaojing Li

Design Date:

2020-2-18

Project Overview

Project Name

Daam2

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Daam2* gene. The schematic diagram is as follows:



- The *Daam2* gene has 4 transcripts. According to the structure of *Daam2* gene, exon3-exon5 of *Daam2-201* (ENSMUST00000057610.7) transcript is recommended as the knockout region. The region contains 260bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Daam2* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Homozygous KO in combination with homozygous
- The *Daam2* gene is located on the Chr17. 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)

Daam2 dishevelled associated activator of morphogenesis 2 [Mus musculus (house mouse)]

Gene ID: 76441, updated on 31-Jan-2019

Summary



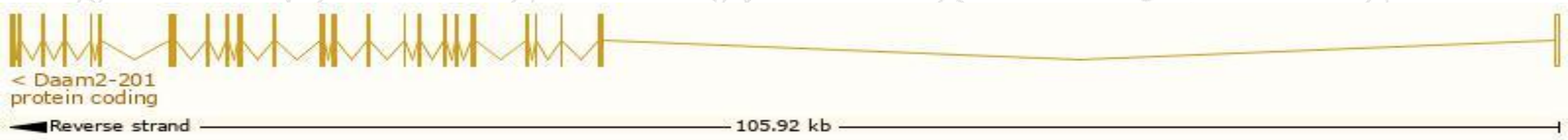
Official Symbol	Daam2 provided by MGI
Official Full Name	dishevelled associated activator of morphogenesis 2 provided by MGI
Primary source	MGI:MGI:1923691
See related	Ensembl:ENSMUSG00000040260
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2310016D11Rik, AI843643, AW557870
Expression	Broad expression in cerebellum adult (RPKM 13.0), testis adult (RPKM 12.4) and 23 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

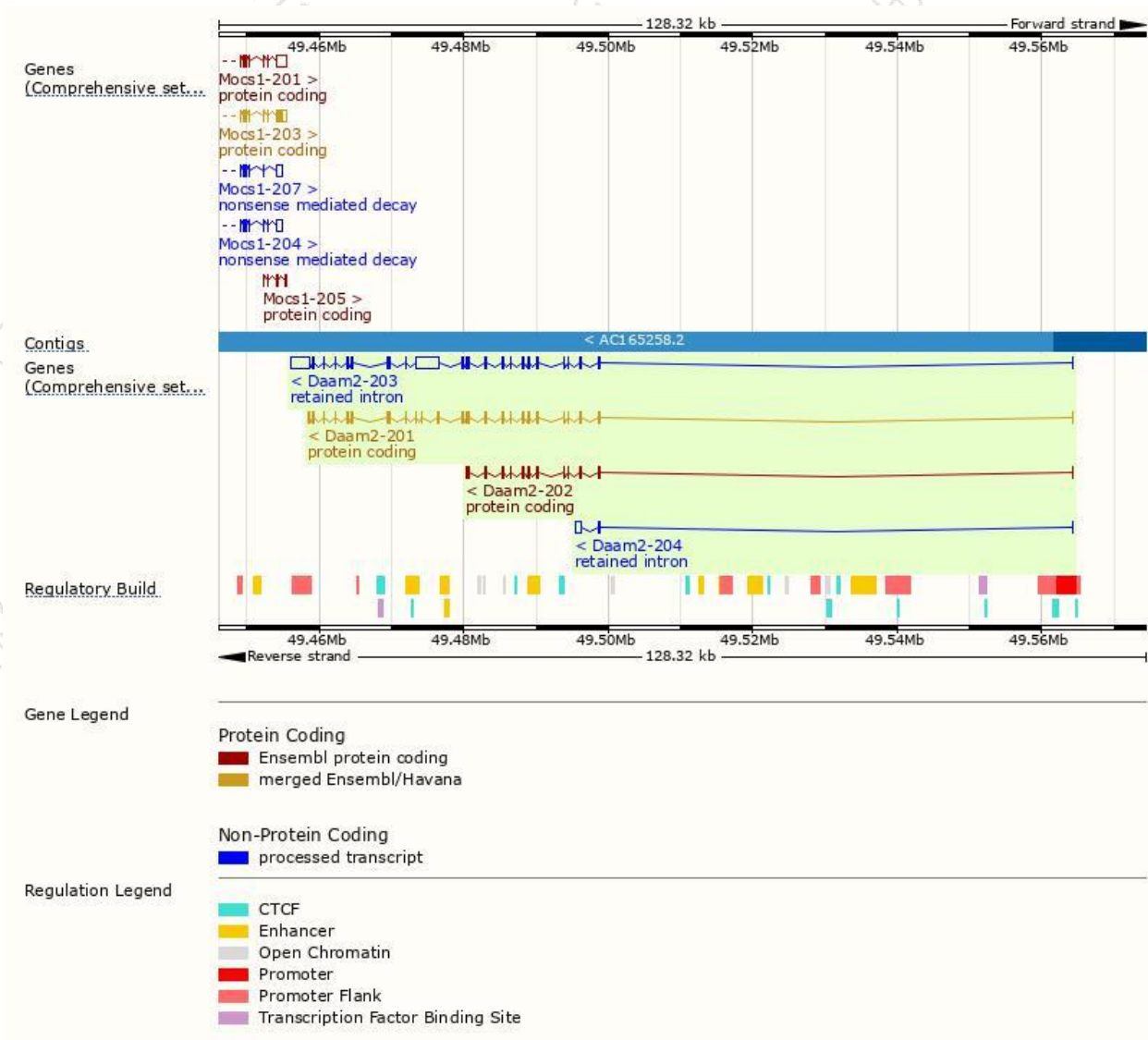
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Daam2-201	ENSMUST00000057610.7	3646	1115aa	Protein coding	CCDS37648	Q80U19	TSL:1 GENCODE basic APPRIS P1
Daam2-202	ENSMUST00000224595.1	1926	524aa	Protein coding	-	Q80U19	GENCODE basic
Daam2-203	ENSMUST00000224954.1	8956	No protein	Retained intron	-	-	
Daam2-204	ENSMUST00000226030.1	1039	No protein	Retained intron	-	-	

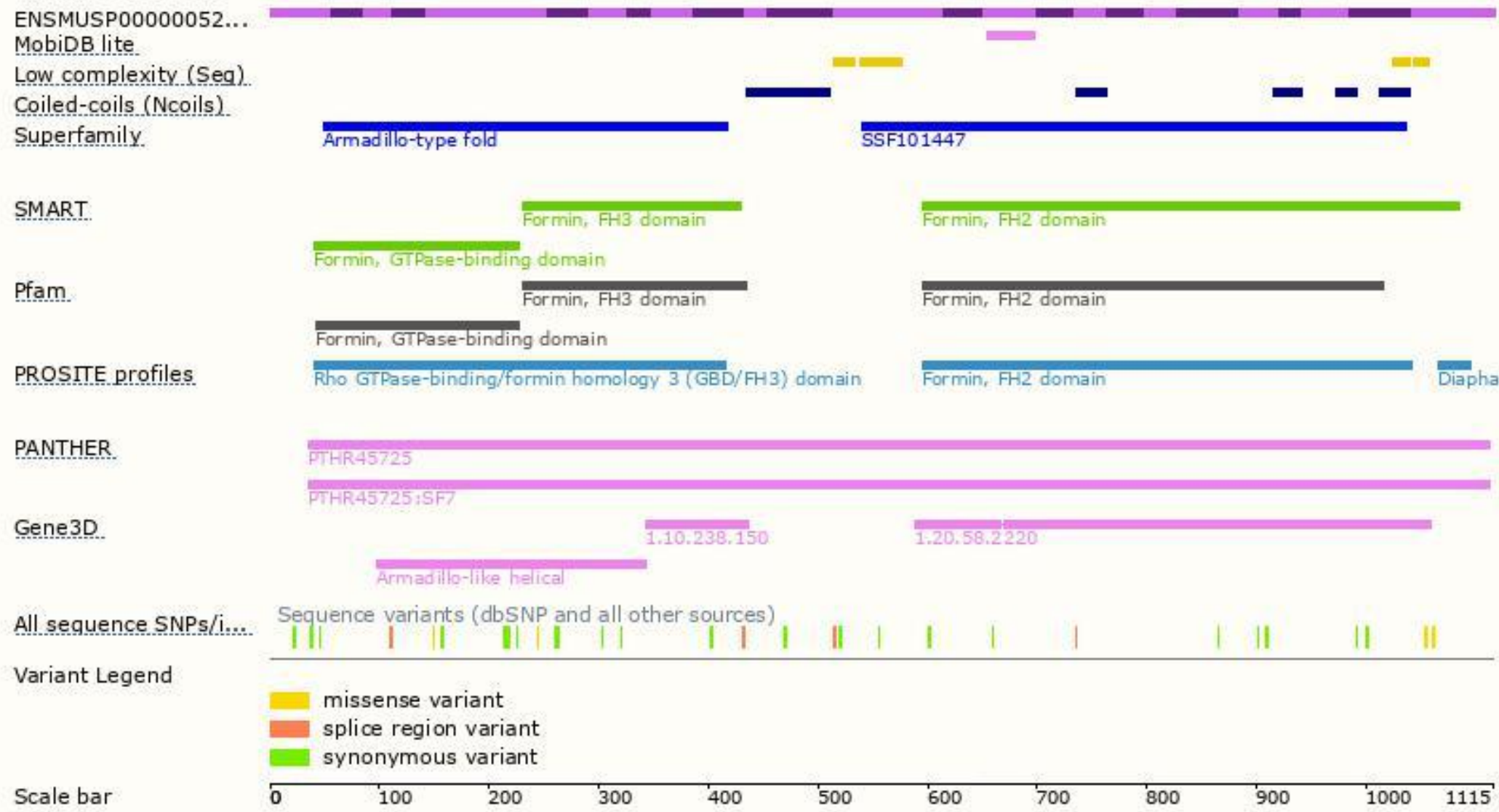
The strategy is based on the design of *Daam2-201* transcript,The transcription is shown below



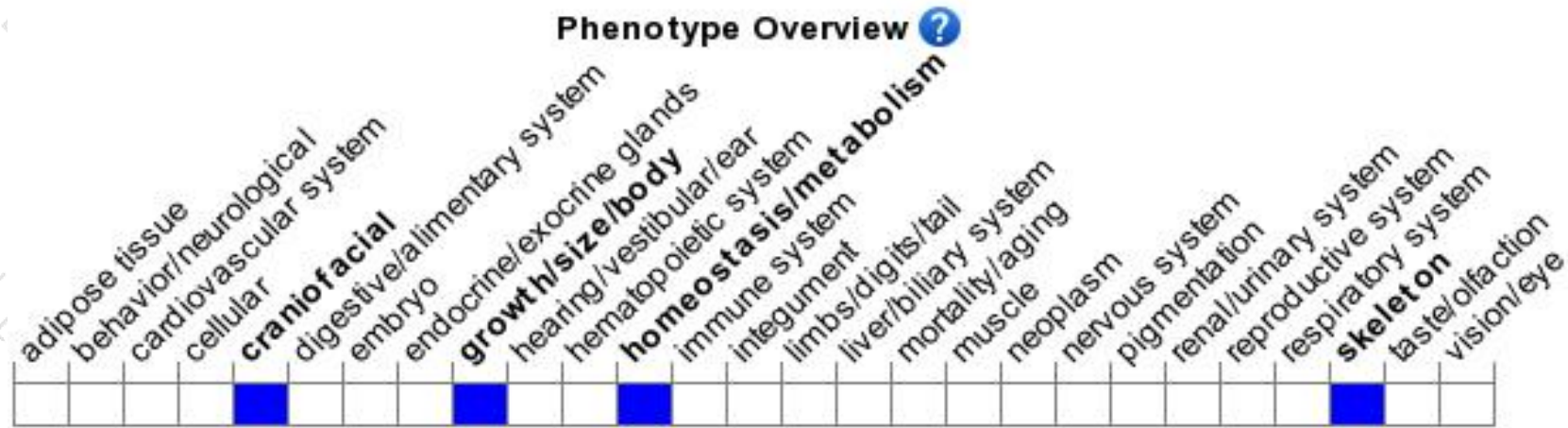
Genomic location distribution



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/>).

According to the existing MGI data, Homozygous KO in combination with homozygous

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

Tel: 400-9660890

