

Wasf3 Cas9-KO Strategy

Designer: Xueting Zhang

Reviewer: Yanhua Shen

Date: 2019-10-20

Project Overview

Project Name

Wasf3

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wasf3* gene. The schematic diagram is as follows:



- The *Wasf3* gene has 2 transcripts. According to the structure of *Wasf3* gene, exon4-exon7 of *Wasf3-201* (ENSMUST00000016143.8) transcript is recommended as the knockout region. The region contains 583bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wasf3* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a knock-out allele exhibit normal platelet physiology.
- The effect on transcript *Wasf3*-202 is unknown.
- The *Wasf3* gene is located on the Chr5. 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)

Wasf3 WAS protein family, member 3 [*Mus musculus* (house mouse)]

Gene ID: 245880, updated on 8-Oct-2019

Summary

- Official Symbol

Wasf3 provided by MGI
- Official Full Name

WAS protein family, member 3 provided by MGI
- Primary source

[MGI:MGI:2658986](#)
- See related

[Ensembl:ENSMUSG00000029636](#)
- Gene type

protein coding
- RefSeq status

PROVISIONAL
- Organism

[Mus musculus](#)
- Lineage

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
- Also known as

Scar3; Wave3
- Expression

Broad expression in cerebellum adult (RPKM 17.1), frontal lobe adult (RPKM 16.1) and 15 other tissues [See more](#)
- Orthologs

[human](#) [all](#)

Genomic context

Location: 5; 5 G3

See Wasf3 in [Genome Data Viewer](#)

Exon count: 12

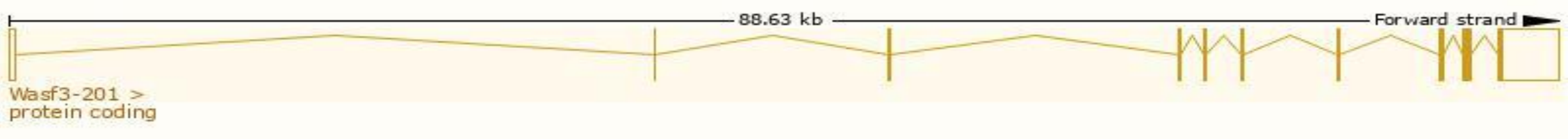
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	5	NC_000071.6 (146385006..146473615)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	5	NC_000071.5 (147196582..147282701)

Transcript information (Ensembl)

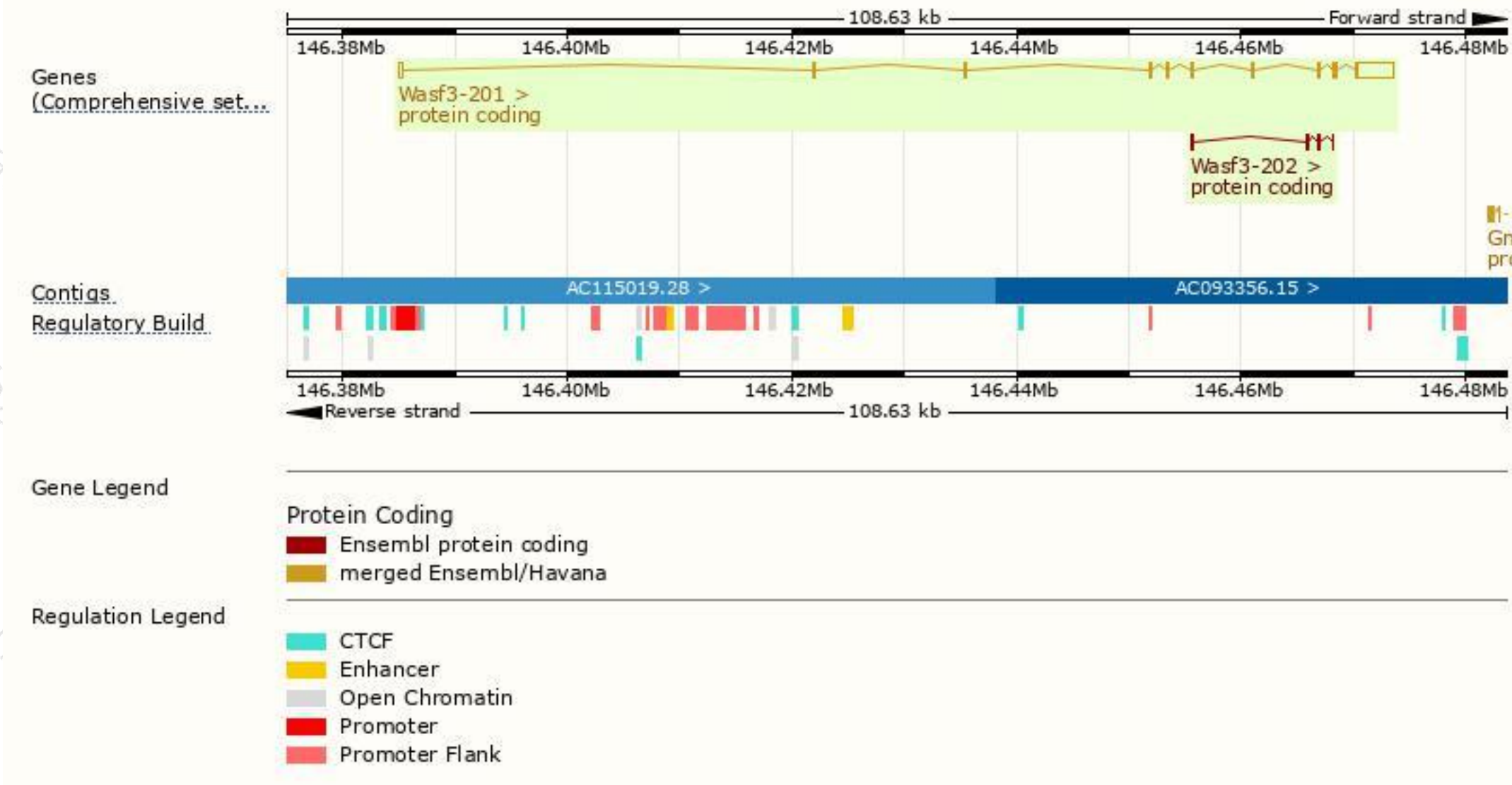
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wasf3-201	ENSMUST00000016143.8	5196	501aa	Protein coding	CCDS19870	Q8VHI6	TSL:1 GENCODE basic APPRIS P1
Wasf3-202	ENSMUST00000238592.1	532	177aa	Protein coding	-	-	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete

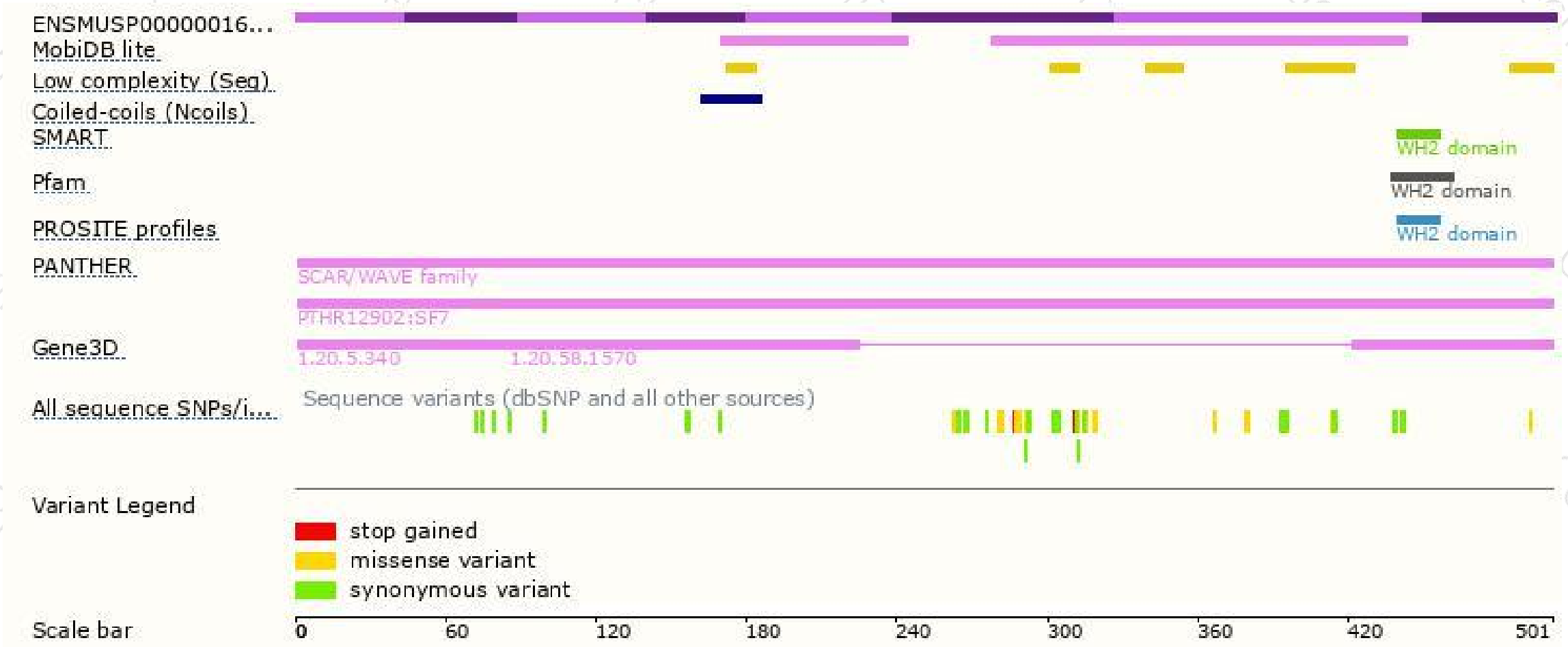
The strategy is based on the design of *Wasf3-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

