

Spag6 Cas9-KO Strategy

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Project Overview

Project Name

Spag6

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Spag6* gene. The schematic diagram is as follows:



- The *Spag6* gene has 4 transcripts. According to the structure of *Spag6* gene, exon3 of *Spag6-201* (ENSMUST00000095132.9) transcript is recommended as the knockout region. The region contains 167bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Spag6* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Spag6* gene is located on the Chr2. 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)

Spag6 sperm associated antigen 6 [Mus musculus (house mouse)]

Gene ID: 381350, updated on 13-Mar-2020

Summary



Official Symbol	Spag6 provided by MGI
Official Full Name	sperm associated antigen 6 provided by MGI
Primary source	MGI:MGI:3040687
See related	Ensembl:ENSMUSG00000037708
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	Spag6l
Expression	Restricted expression toward testis adult (RPKM 33.0) See more
Orthologs	human all

Transcript information (Ensembl)

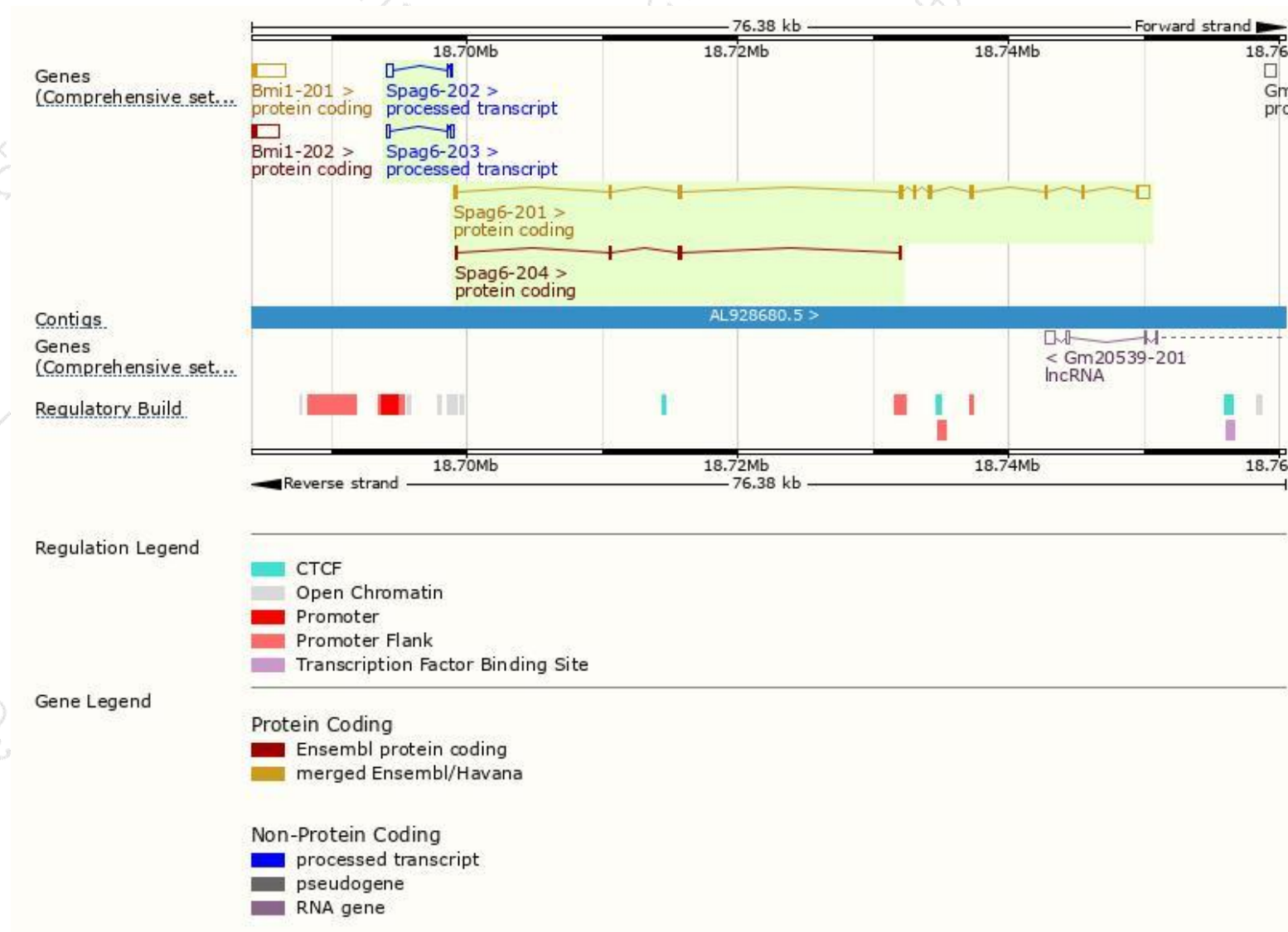
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Spag6-201	ENSMUST00000095132.9	2458	509aa	Protein coding	CCDS38051	Q3V0U9	TSL:1 GENCODE basic APPRIS P1
Spag6-204	ENSMUST00000173763.1	626	167aa	Protein coding	-	G3UWQ4	CDS 3' incomplete TSL:3
Spag6-202	ENSMUST00000137796.7	723	No protein	Processed transcript	-	-	TSL:3
Spag6-203	ENSMUST00000138017.1	686	No protein	Processed transcript	-	-	TSL:3

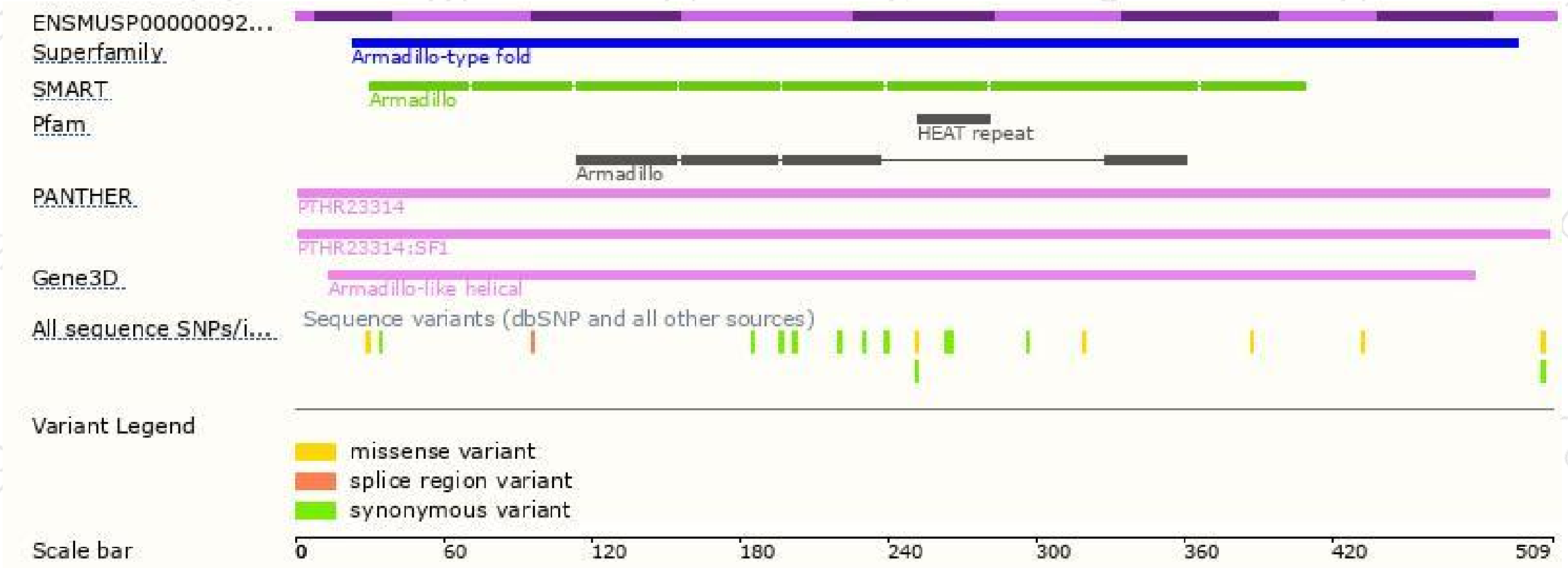
The strategy is based on the design of *Spag6-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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