

Stam2 Cas9-KO Strategy

Designer:

Daohua Xu

Reviewer:

Huimin Su

Design Date:

2020-1-22

Project Overview

Project Name

Stam2

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Stam2* gene. The schematic diagram is as follows:



- The *Stam2* gene has 5 transcripts. According to the structure of *Stam2* gene, exon2-exon7 of *Stam2-201* (ENSMUST00000102759.7) transcript is recommended as the knockout region. The region contains 664bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Stam2* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a targeted null mutation exhibit no discernable phenotype; mice are viable and fertile with normal lymphocyte responses.
- The *Stam2* 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)

Stam2 signal transducing adaptor molecule (SH3 domain and ITAM motif) 2 [Mus musculus (house mouse)]

Gene ID: 56324, updated on 31-Jan-2019

Summary



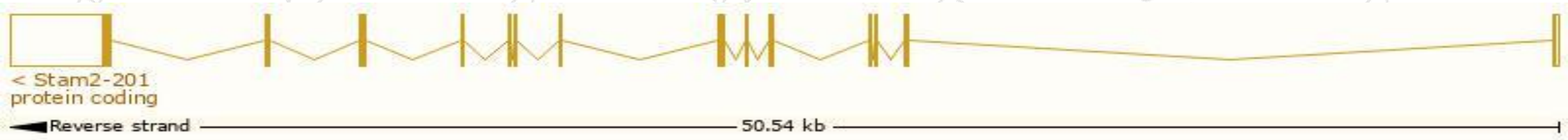
Official Symbol	Stam2 provided by MGI
Official Full Name	signal transducing adaptor molecule (SH3 domain and ITAM motif) 2 provided by MGI
Primary source	MGI:MGI:1929100
See related	Ensembl:ENSMUSG00000055371
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1200004O12Rik, 5730456G07Rik, BB145015, Hbp
Expression	Ubiquitous expression in CNS E18 (RPKM 8.5), testis adult (RPKM 7.9) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

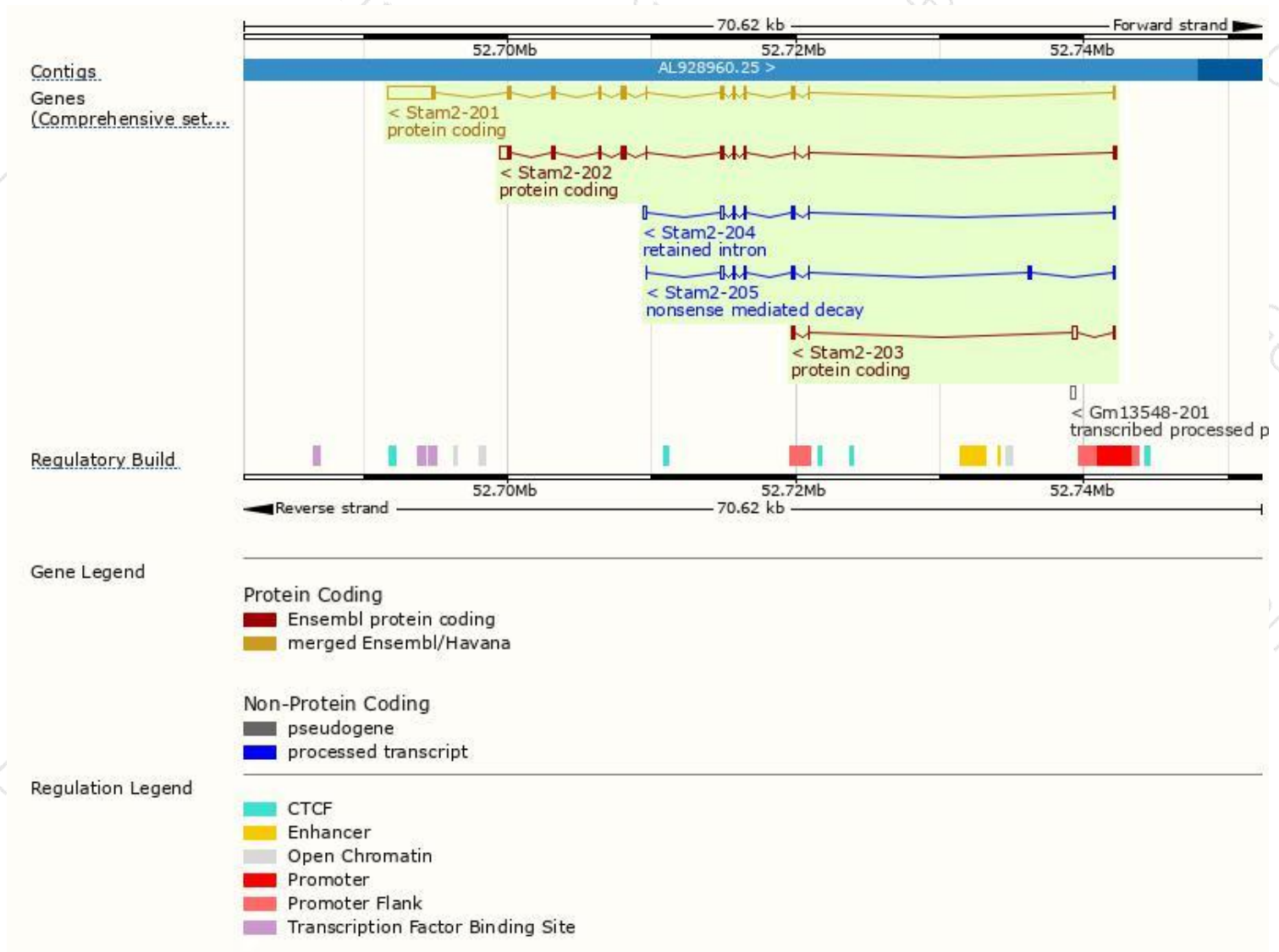
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Stam2-201	ENSMUST00000102759.7	4717	523aa	Protein coding	CCDS16037	O88811 Q3TGH8	TSL:1 GENCODE basic APPRIS P1
Stam2-202	ENSMUST00000127316.7	1928	415aa	Protein coding	-	O88811	TSL:1 GENCODE basic
Stam2-203	ENSMUST00000138290.1	657	65aa	Protein coding	-	B0R0N7	CDS 3' incomplete TSL:5
Stam2-205	ENSMUST00000155516.1	995	53aa	Nonsense mediated decay	-	Q3YEC8	TSL:1
Stam2-204	ENSMUST00000150582.7	1078	No protein	Retained intron	-	-	TSL:1

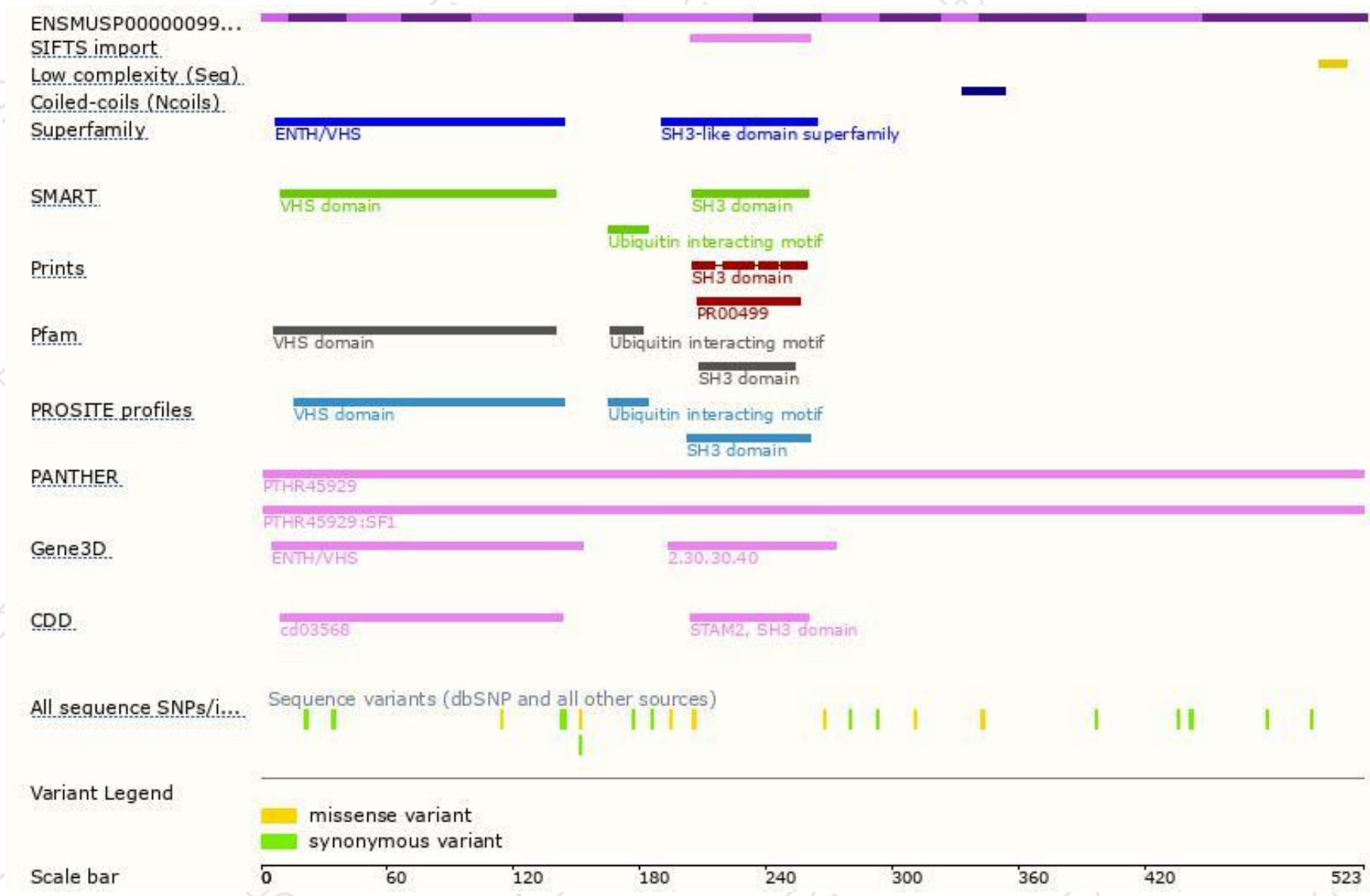
The strategy is based on the design of *Stam2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

