

Snai3 Cas9-KO Strategy

Designer: Xueting Zhang

Reviewer: Yanhua Shen

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Project Overview

Project Name

Snai3

Project type

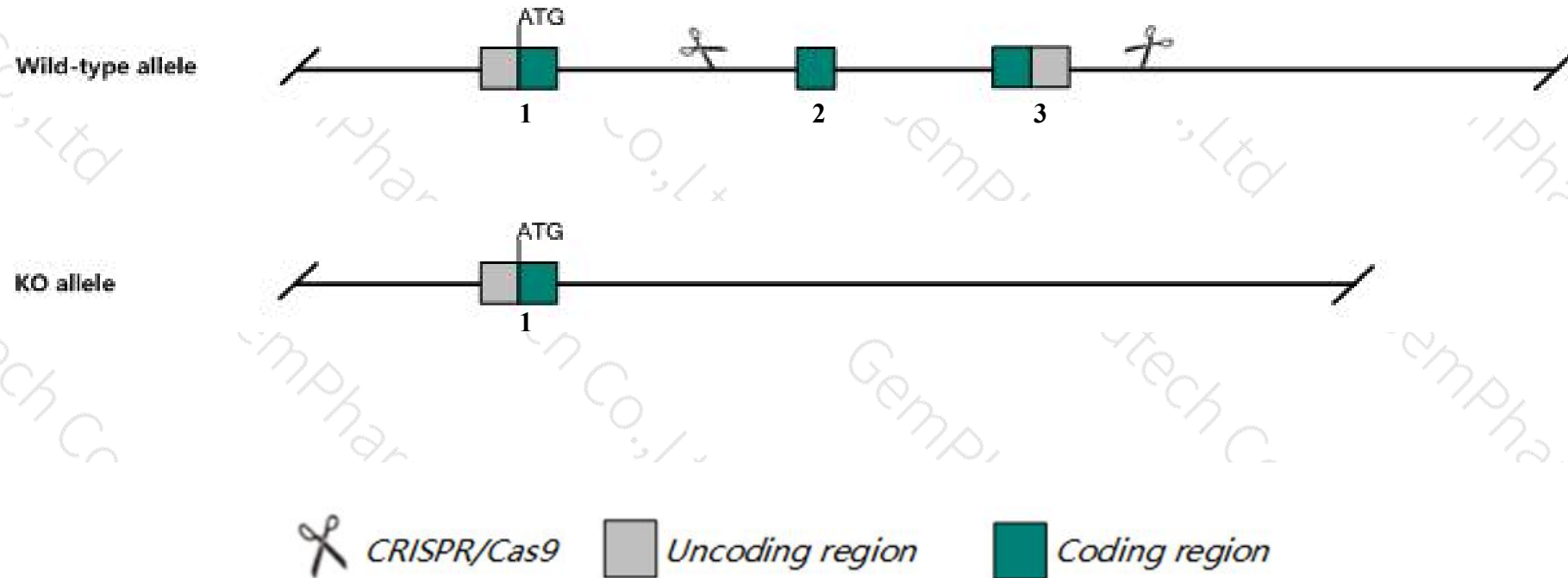
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Snai3* gene. The schematic diagram is as follows:



- The *Snai3* gene has 1 transcript. According to the structure of *Snai3* gene, exon2-exon3 of *Snai3-201* (ENSMUST00000006762.6) transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Snai3* gene. The brief process is as follows: CRISPR/Cas9 system was

- According to the existing MGI data, Mice homozygous for a knock-out allele exhibit no abnormal phenotype.
- The knockout region is near to the N-terminal of *Gm20735* gene, this strategy may influence the regulatory function of the N-terminal of *Gm20735* gene.
- The partial sequence of the intron of *Gm20388* gene will be destroyed together in this strategy.
- The *Snai3* gene is located on the Chr8. 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)

Snai3 snail family zinc finger 3 [*Mus musculus* (house mouse)]

Gene ID: 30927, updated on 12-Aug-2019

Summary

Official Symbol Snai3 provided by [MGI](#)
Official Full Name snail family zinc finger 3 provided by [MGI](#)
Primary source [MGI:MGI:1353563](#)
See related [Ensembl:ENSMUSG00000006587](#)
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 Smuc; Zfp293; Al643946
Expression Biased expression in thymus adult (RPKM 15.7), mammary gland adult (RPKM 3.0) and 12 other tissues [See more](#)
Orthologs [human](#) [all](#)

Genomic context

Location: 8; 8 E1

See Snai3 in [Genome Data Viewer](#)

Exon count: 4

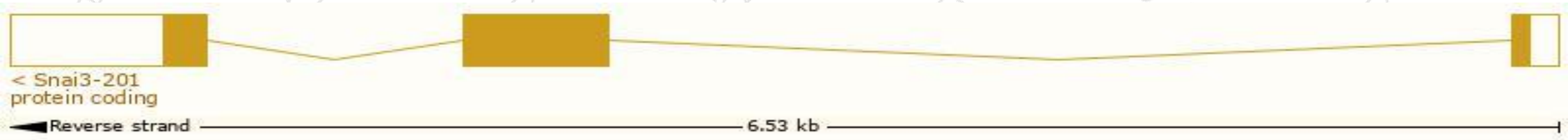
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	8	NC_000074.6 (122454204..122460809, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	8	NC_000074.5 (124978106..124984592, complement)

Transcript information (Ensembl)

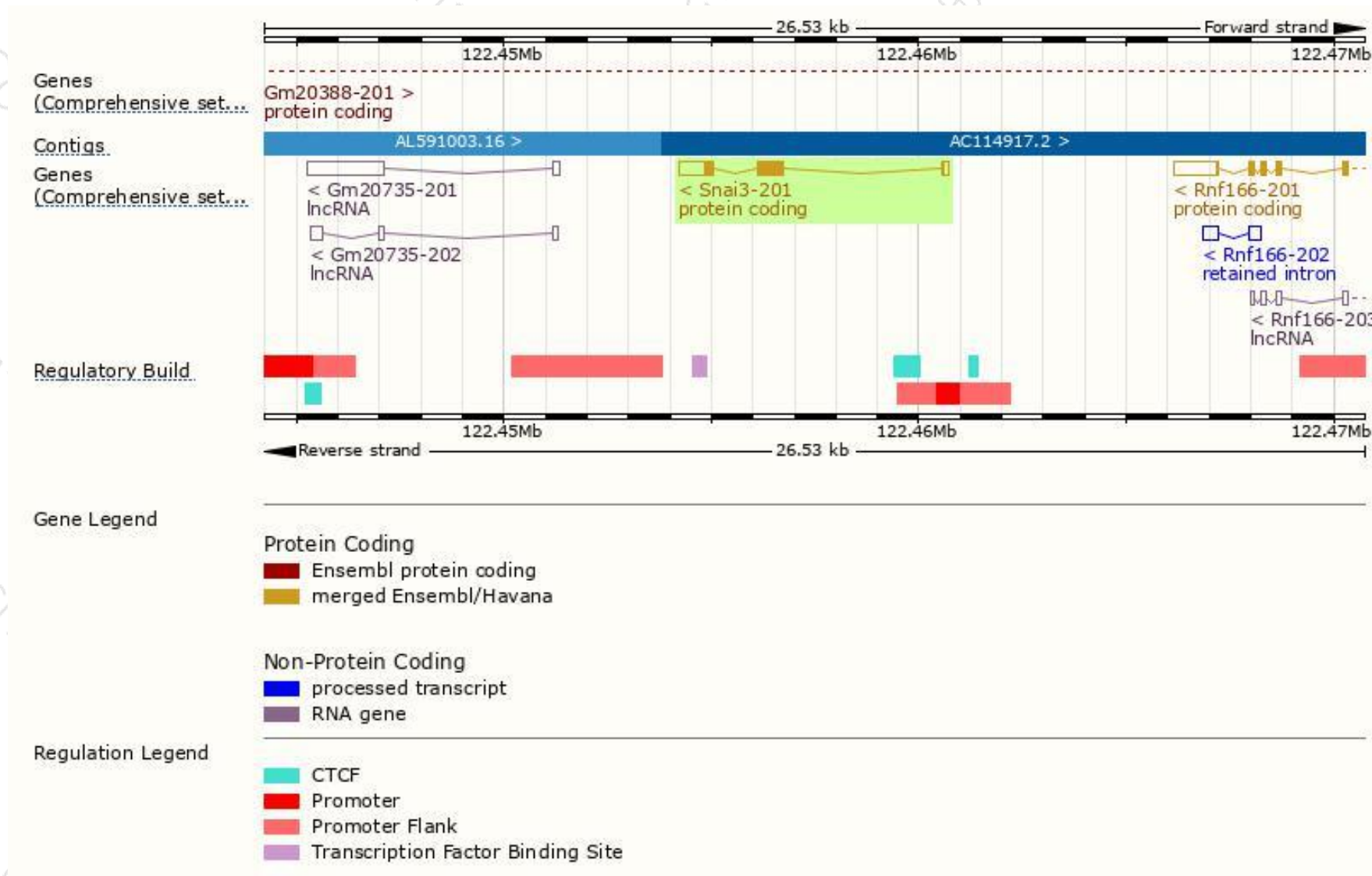
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Snai3-201	ENSMUST00000006762.6	1628	287aa	Protein coding	CCDS22739	Q9QY31	TSL:1 GENCODE basic APPRIS P1

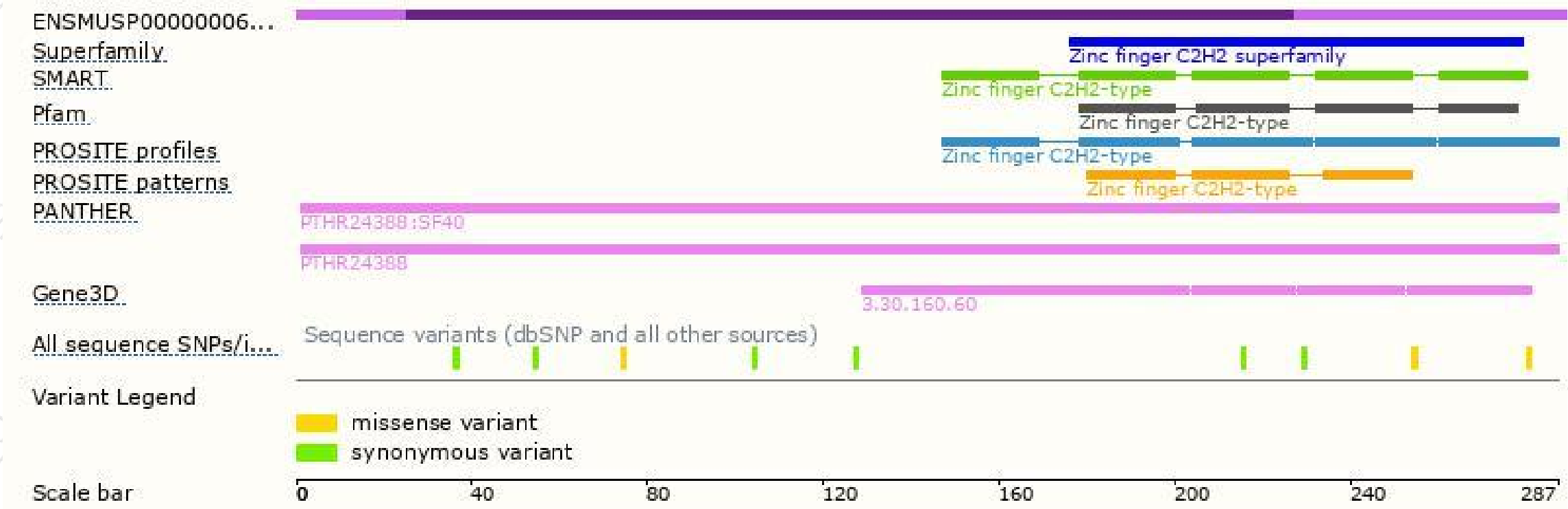
The strategy is based on the design of *Snai3-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

