

Snip1 Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Snip1

Project type

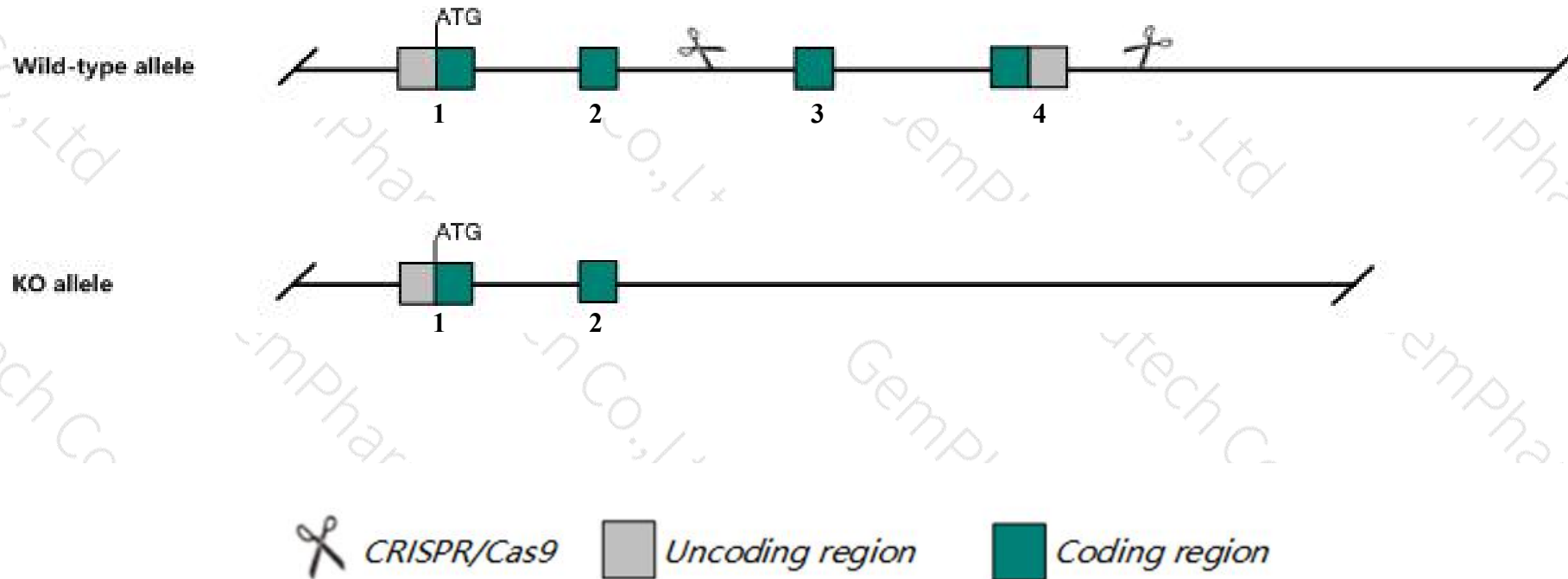
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Snip1* gene. The schematic diagram is as follows:



- The *Snip1* gene has 2 transcripts. According to the structure of *Snip1* gene, exon3-exon4 of *Snip1-201* (ENSMUST00000052183.6) 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 *Snip1* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Snip1* gene is located on the Chr4. 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)

Snip1 Smad nuclear interacting protein 1 [Mus musculus (house mouse)]

Gene ID: 76793, updated on 31-Jan-2019

Summary



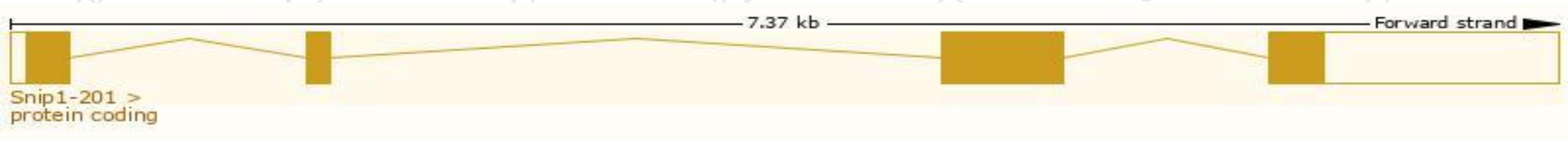
Official Symbol	Snip1 provided by MGI
Official Full Name	Smad nuclear interacting protein 1 provided by MGI
Primary source	MGI:MGI:2156003
See related	Ensembl:ENSMUSG00000050213
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2410133M08Rik
Expression	Ubiquitous expression in testis adult (RPKM 7.6), CNS E11.5 (RPKM 7.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

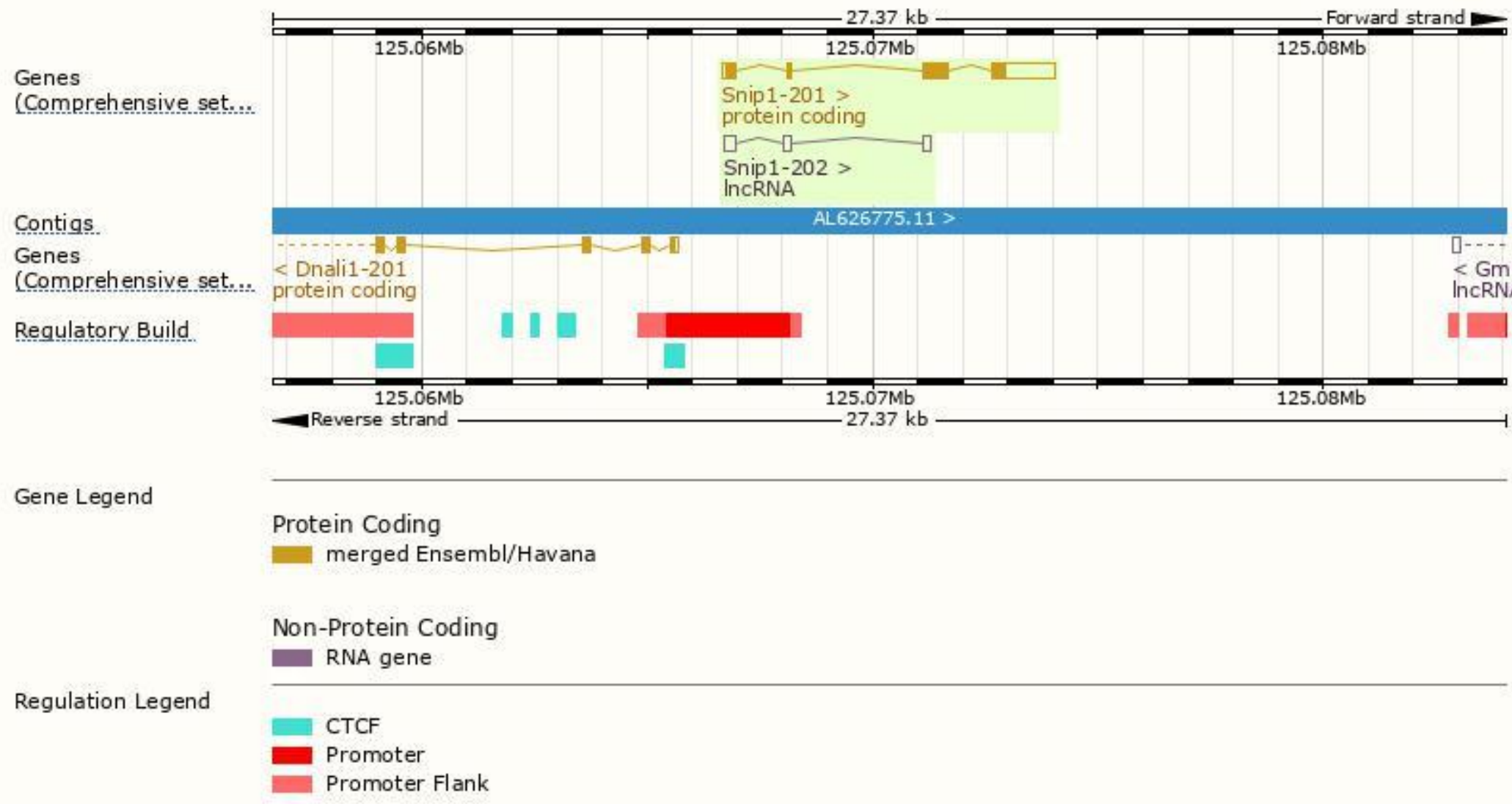
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Snip1-201	ENSMUST00000052183.6	2345	383aa	Protein coding	CCDS18636	Q8BIZ6	TSL:1 GENCODE basic APPRIS P1
Snip1-202	ENSMUST00000145733.1	632	No protein	lncRNA	-	-	TSL:2

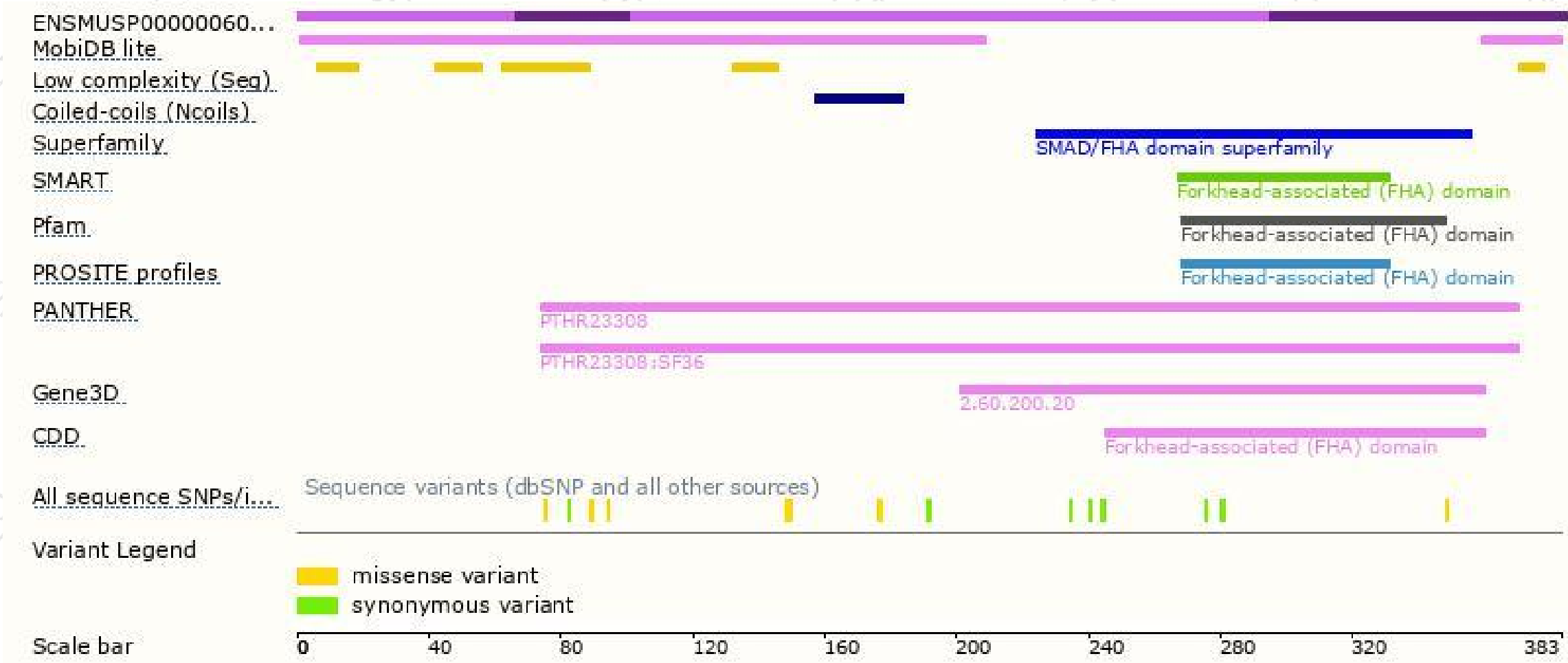
The strategy is based on the design of *Snip1-201* transcript,The transcription is shown below



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/>).

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

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