

***Rnf114* Cas9-KO Strategy**

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Project Overview

Project Name

Rnf114

Project type

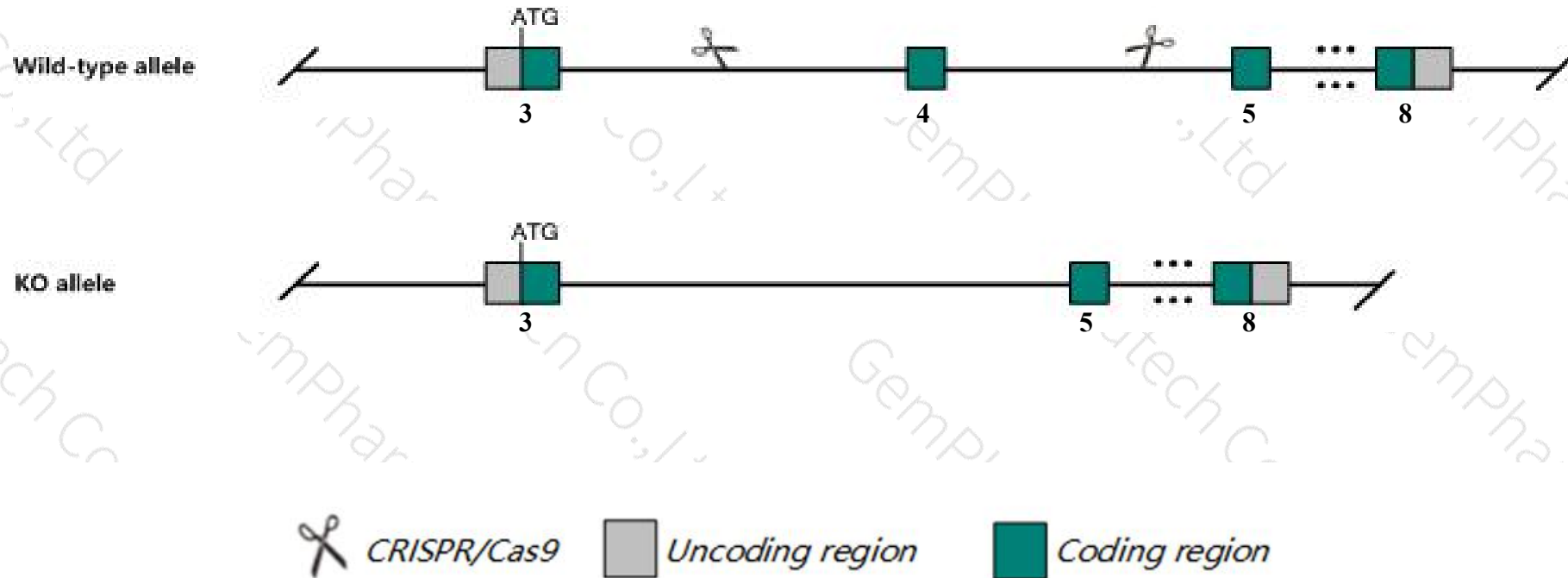
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rnf114* gene. The schematic diagram is as follows:



- The *Rnf114* gene has 3 transcripts. According to the structure of *Rnf114* gene, exon4 of *Rnf114-202* (ENSMUST00000109214.7) transcript is recommended as the knockout region. The region contains 151bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rnf114* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Rnfl114* 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)

Rnf114 ring finger protein 114 [*Mus musculus* (house mouse)]

Gene ID: 81018, updated on 12-Nov-2019

Summary

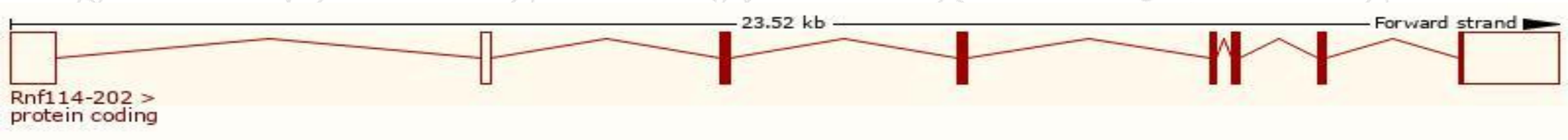
Official Symbol	Rnf114 provided by MGI
Official Full Name	ring finger protein 114 provided by MGI
Primary source	MGI:MGI:1933159
See related	Ensembl:ENSMUSG000000006418
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Zfp228; Zfp313; Znf228; AI225886; AW549494; 1110008J21Rik
Expression	Ubiquitous expression in thymus adult (RPKM 45.5), large intestine adult (RPKM 37.9) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

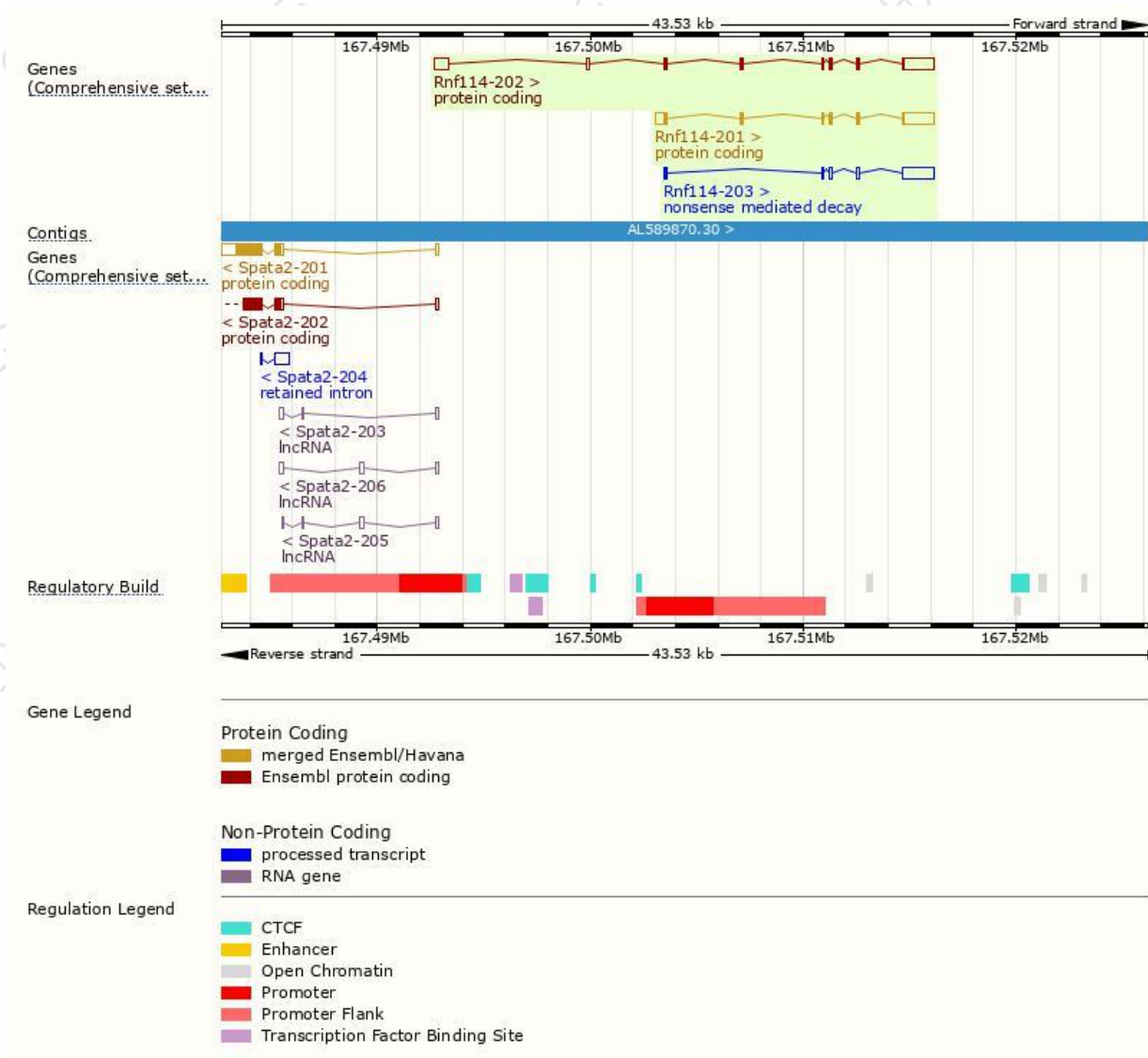
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rnf114-202	ENSMUST00000109214.7	3001	229aa	Protein coding	CCDS17101	Q9ET26	TSL:1 GENCODE basic APPRIS P1
Rnf114-201	ENSMUST00000078050.6	2502	229aa	Protein coding	CCDS17101	Q9ET26	TSL:1 GENCODE basic APPRIS P1
Rnf114-203	ENSMUST00000127939.1	1985	57aa	Nonsense mediated decay	-	S4R1Z0	TSL:1

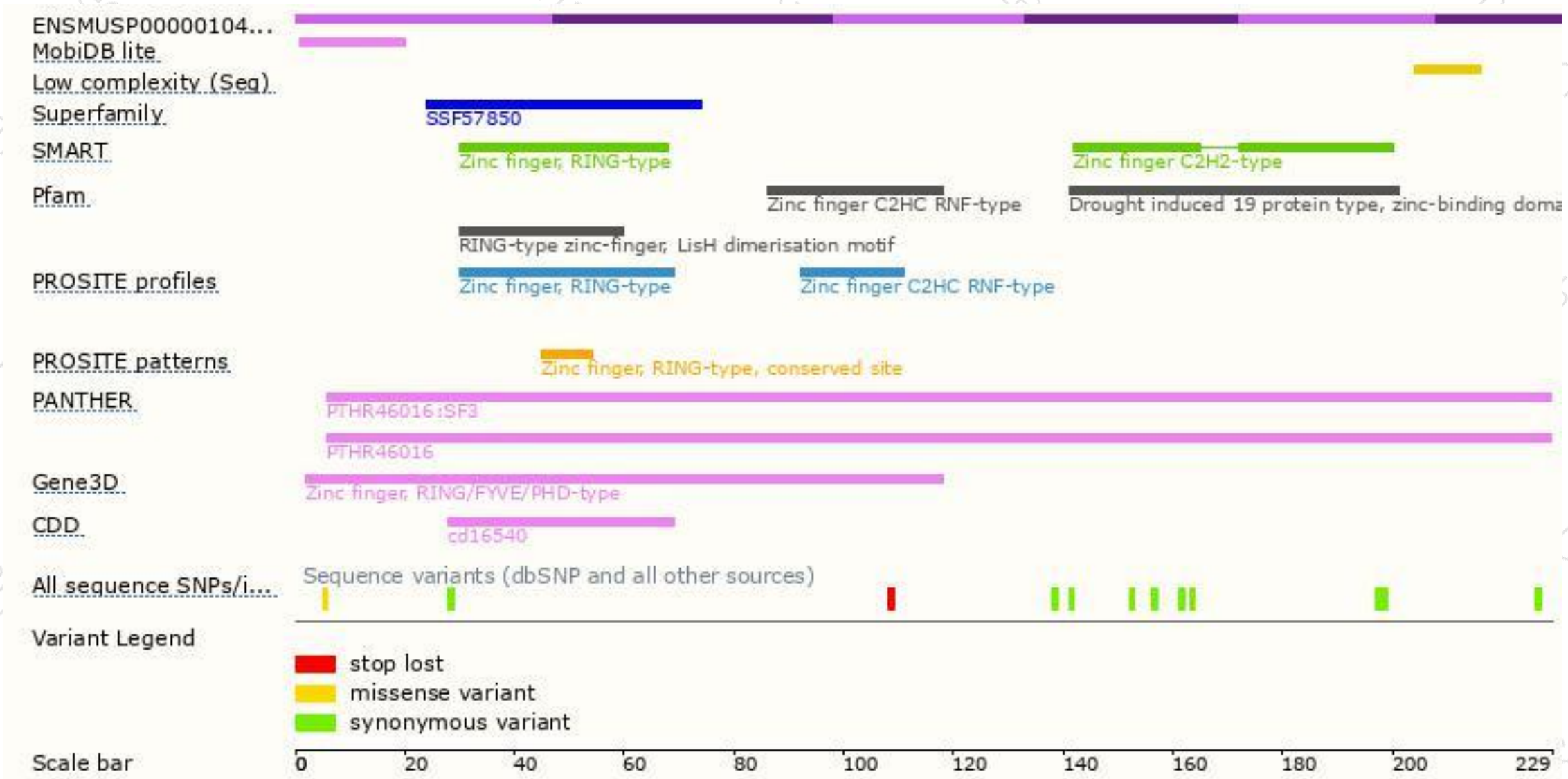
The strategy is based on the design of *Rnf114-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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