

Nop9 Cas9-KO Strategy

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Project Overview

Project Name

Nop9

Project type

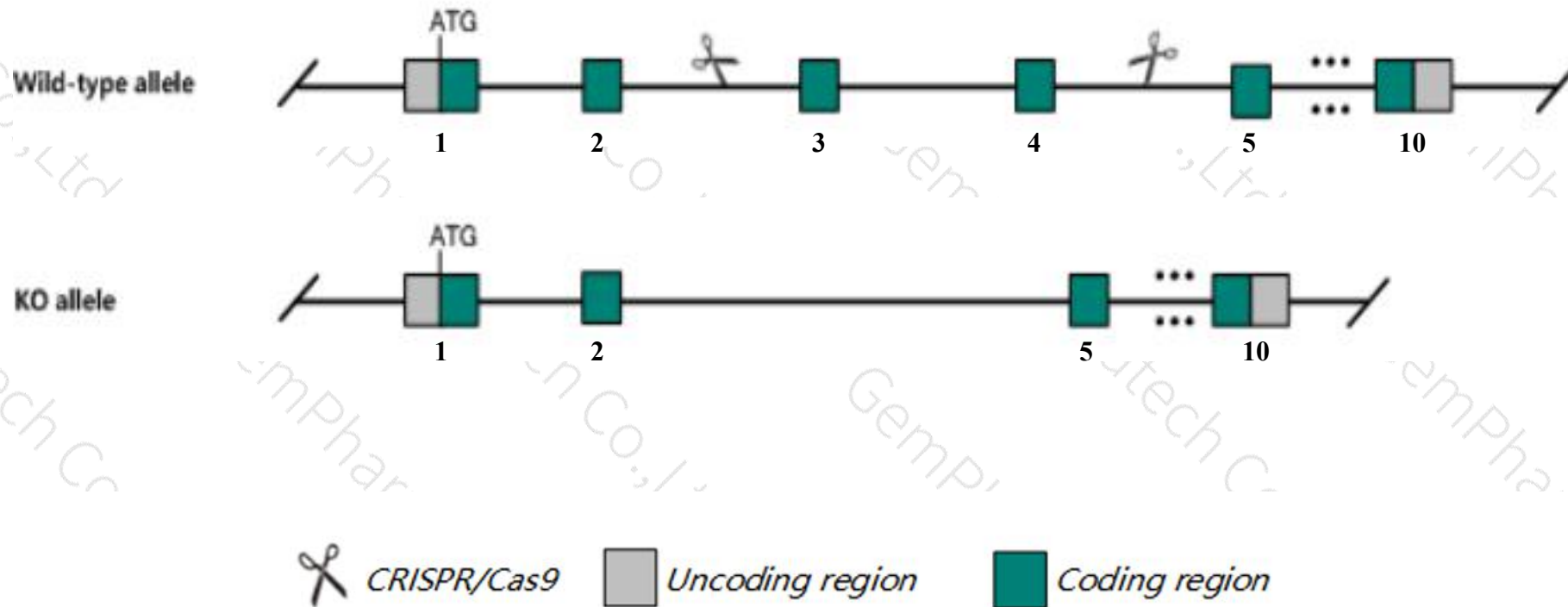
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Nop9* gene. The schematic diagram is as follows:



- The *Nop9* gene has 2 transcripts. According to the structure of *Nop9* gene, exon3-exon4 of *Nop9-201* (ENSMUST00000019441.8) transcript is recommended as the knockout region. The region contains 253bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Nop9* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Nop9* gene is located on the Chr14. 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.
- The 5' loxp is less than 5K from the lateral gene Dhrrs1.

Gene information (NCBI)

Nop9 NOP9 nucleolar protein [Mus musculus (house mouse)]

Gene ID: 67842, updated on 13-Mar-2020

Summary



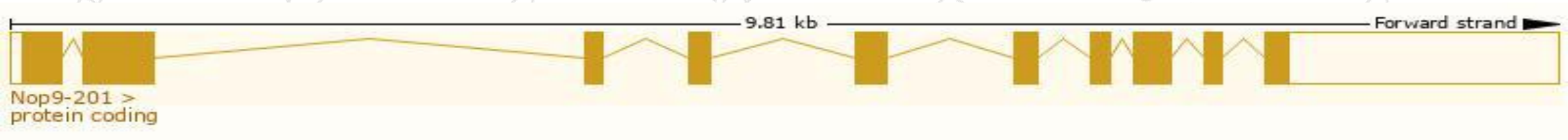
Official Symbol	Nop9 provided by MGI
Official Full Name	NOP9 nucleolar protein provided by MGI
Primary source	MGI:MGI:1915092
See related	Ensembl:ENSMUSG00000019297
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2610027L16Rik
Expression	Broad expression in small intestine adult (RPKM 61.3), liver adult (RPKM 57.9) and 24 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

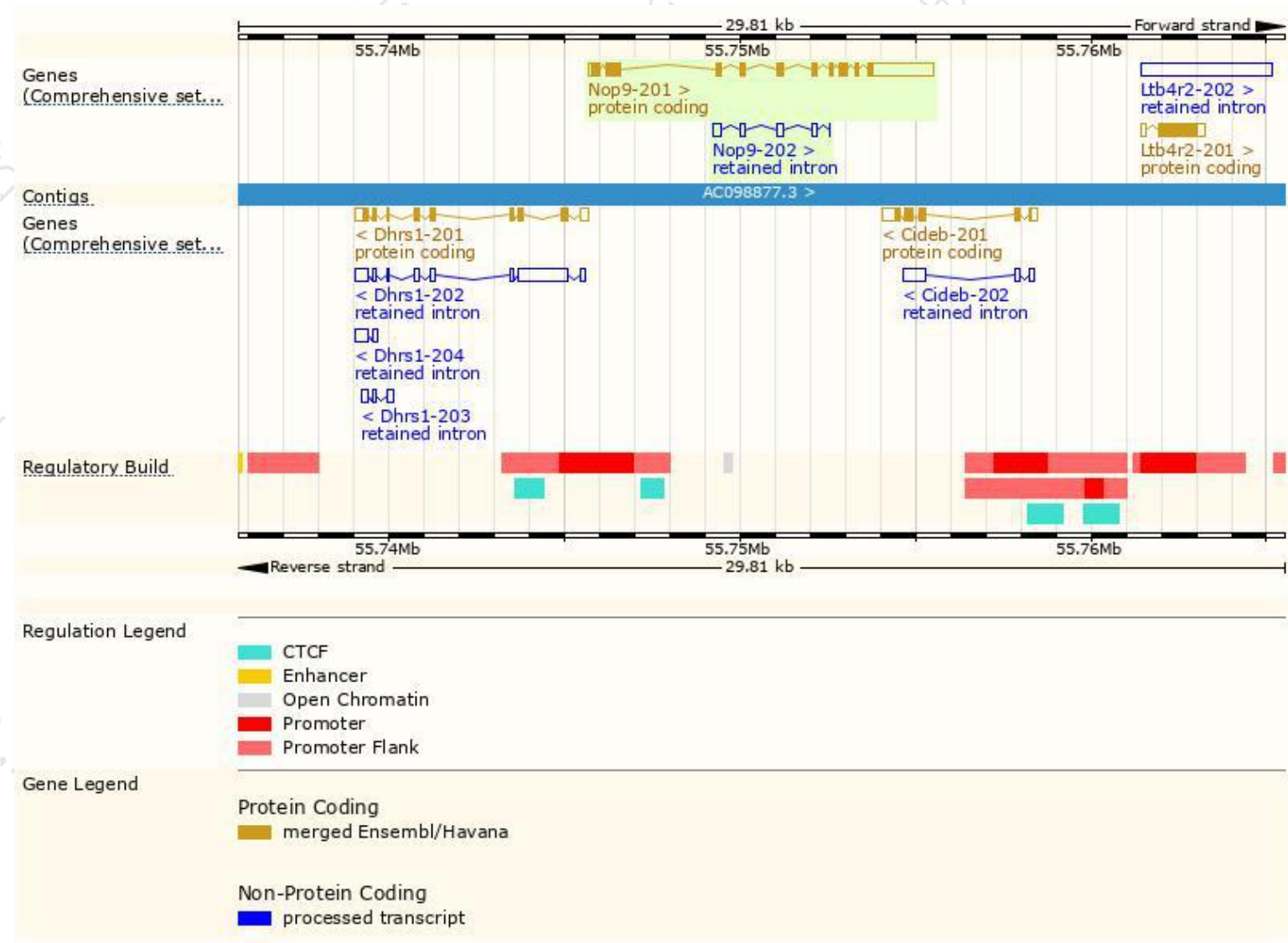
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Nop9-201	ENSMUST00000019441.8	3694	636aa	Protein coding	CCDS27126	Q8BMC4	TSL:1 GENCODE basic APPRIS P1
Nop9-202	ENSMUST00000227300.1	715	No protein	Retained intron	-	-	

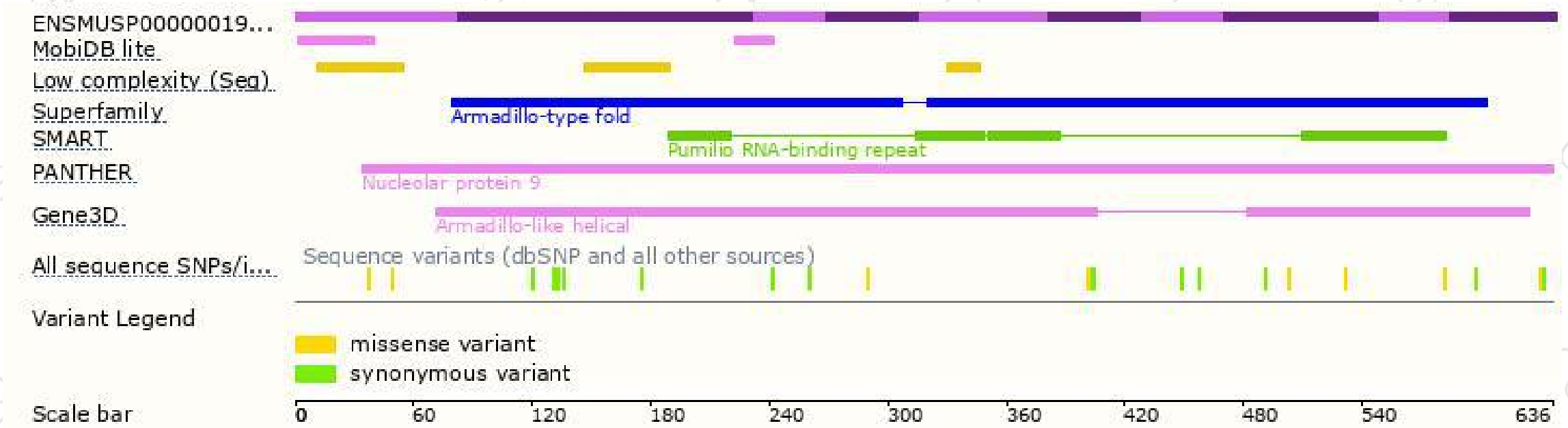
The strategy is based on the design of *Nop9-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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