Ing5 Cas9-KO Strategy

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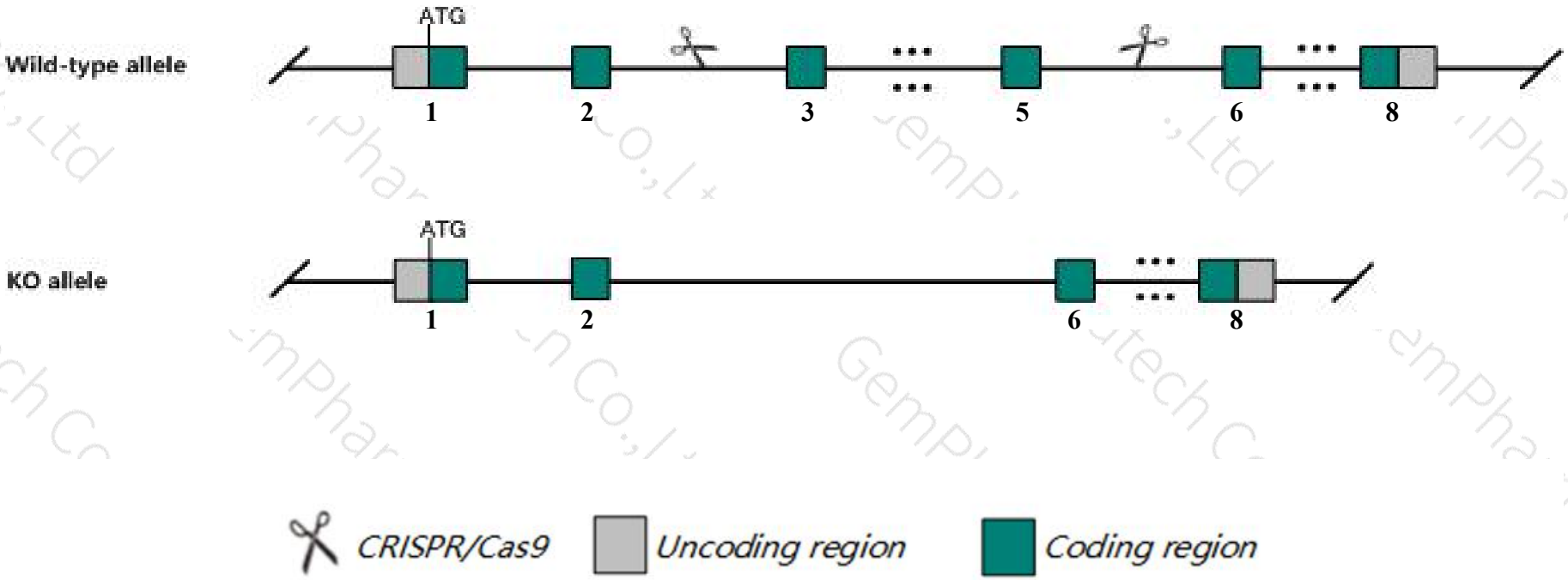
Project Overview

Project Name	***Ing5***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ing5* gene. The schematic diagram is as follows:



Technical routes

➢ The *Ing5* gene has 3 transcripts. According to the structure of *Ing5* gene, exon3-exon5 of *Ing5-201* (ENSMUST00000027505.12) transcript is recommended as the knockout region.The region contains 373bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Ing5* gene. The brief process is as follows: CRISPR/Cas9 system w

Notice

➢Some amino acids will remain at the N-terminus and some functions may be retained.

➢The *Ing5* gene is located on the Chr1. 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）

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Ing5 inhibitor of growth family, member 5 [*Mus musculus* (house mouse)]

Gene ID: 66262, updated on 12-Aug-2019

Summary

Official Symbol	Ing5 provided by MGI
Official Full Name	inhibitor of growth family, member 5 provided by MGI
Primary source	MGI:MGI:1922816
See related	Ensembl:ENSMUSG00000026283
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	AI225768; 1700001C14Rik; 1700027H23Rik; 1810018M11Rik
Expression	Ubiquitous expression in placenta adult (RPKM 7.0), CNS E11.5 (RPKM 6.8) and 28 other tissues See more
Orthologs	human all

Genomic context

Location: 1; 1 D

See Ing5 in Genome Data Viewer

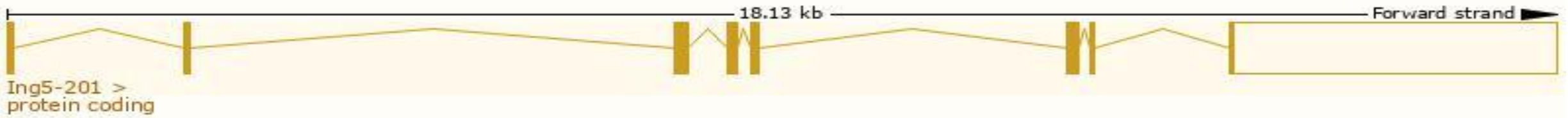
Exon count: 8

Transcript information（Ensembl）

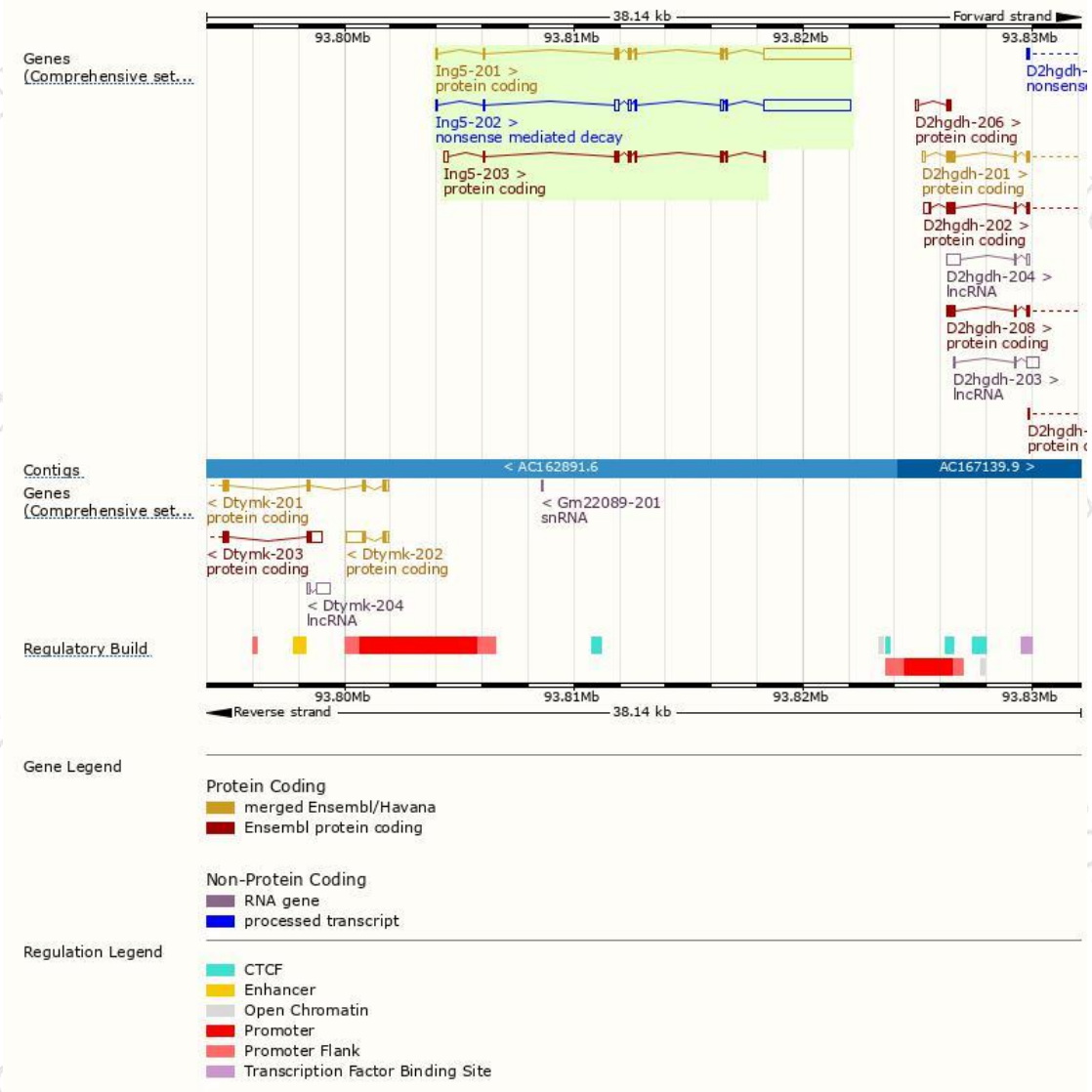
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ing5-201	ENSMUST00000027505.12	4533	240aa	Protein coding	CCDS35673	Q9D8Y8	TSL:1 GENCODE basic APPRIS P1
Ing5-203	ENSMUST00000190476.1	918	213aa	Protein coding	-	Q9D8Y8	TSL:1 GENCODE basic
Ing5-202	ENSMUST00000188402.1	4538	41aa	Nonsense mediated decay	-	A0A087WRR4	TSL:1

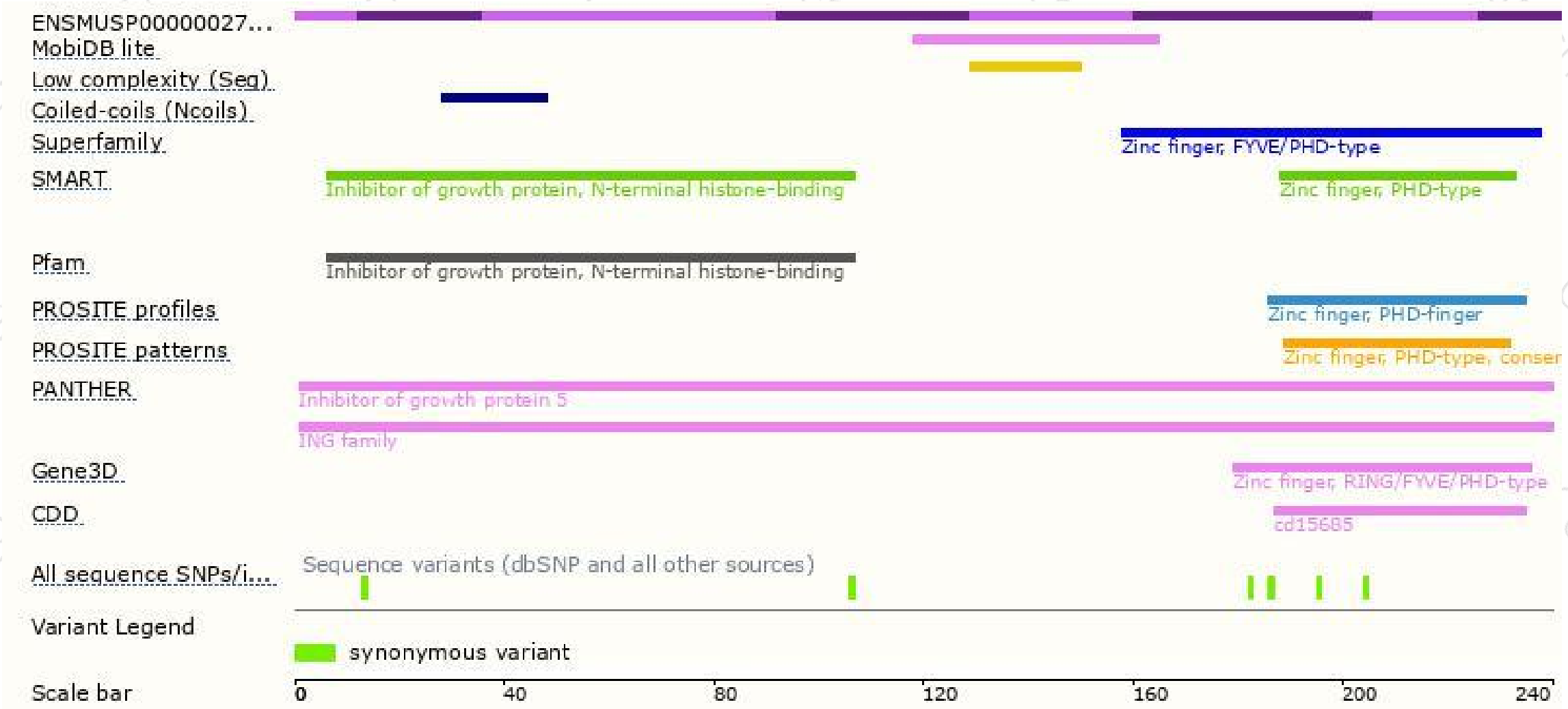
The strategy is based on the design of *Ing5-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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