

Ing5 Cas9-CKO Strategy

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Project Overview

Project Name

Ing5

Project type

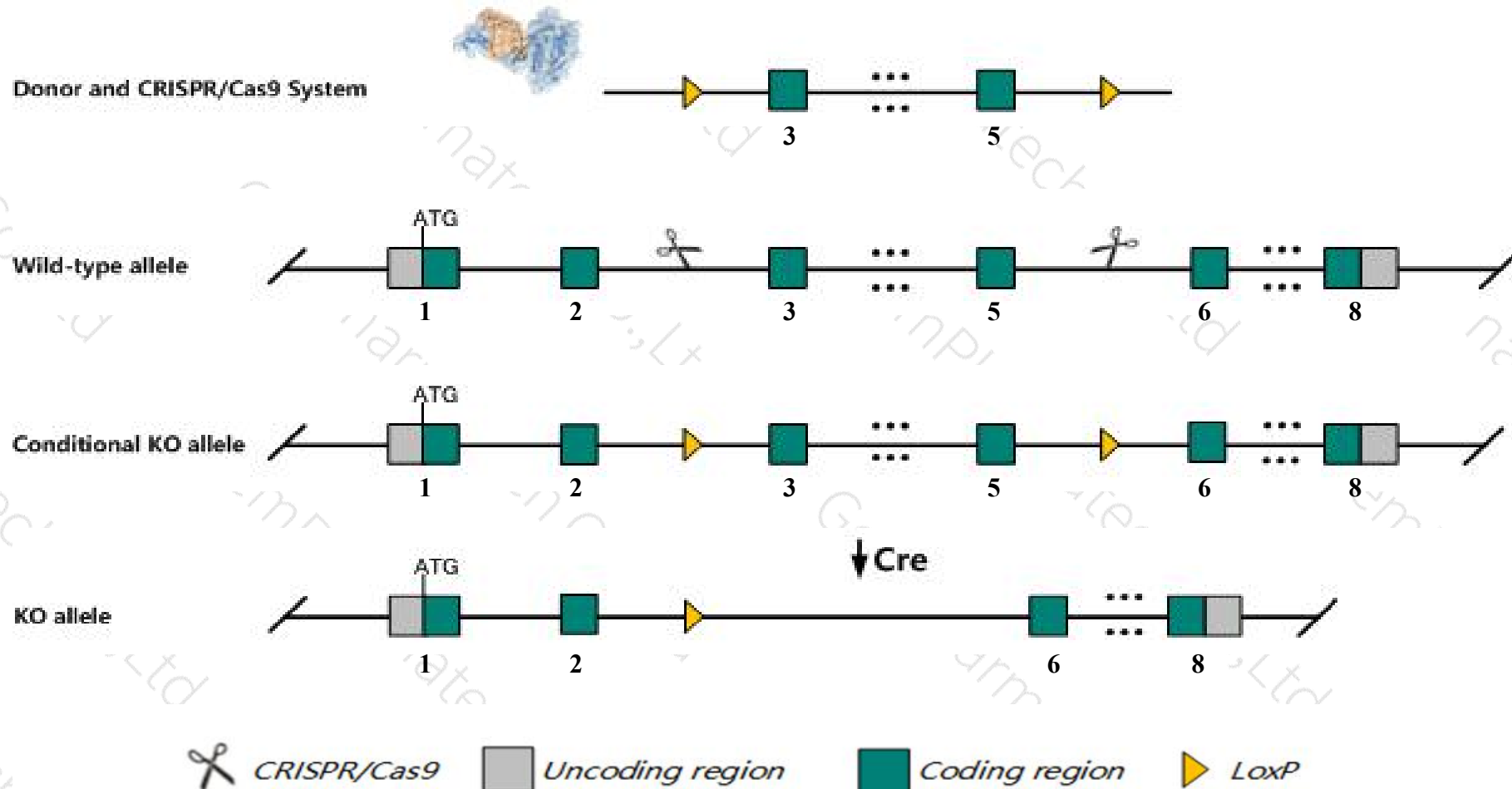
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



- 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 and Donor were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.
- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

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

Exon count: 8

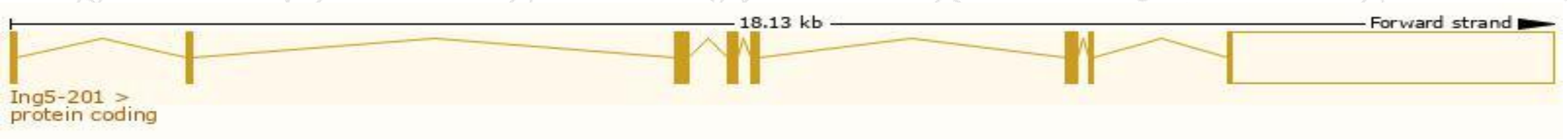
See Ing5 in [Genome Data Viewer](#)

Transcript information (Ensembl)

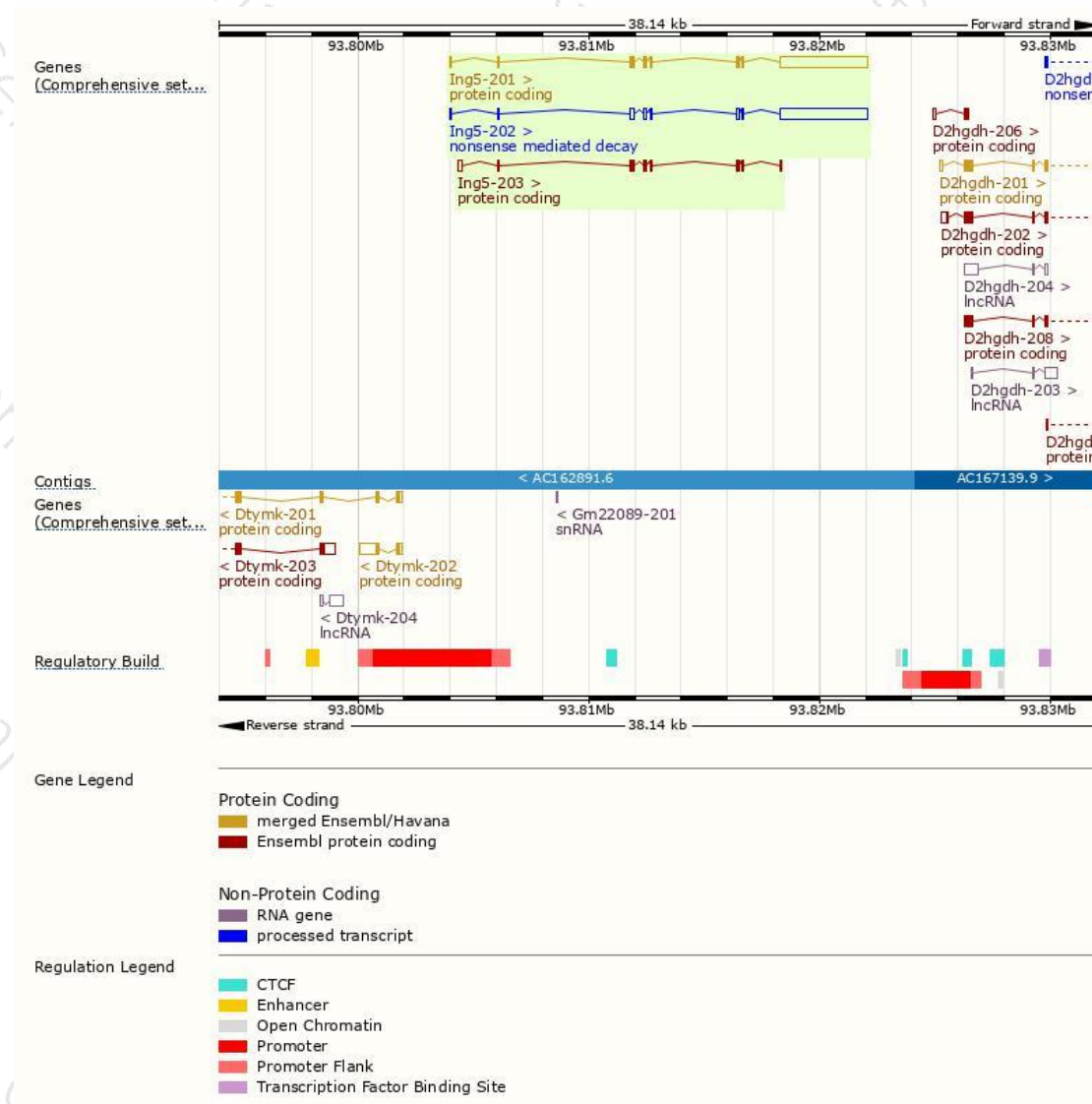
The gene has 3 transcripts,all transcripts are shown below:

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

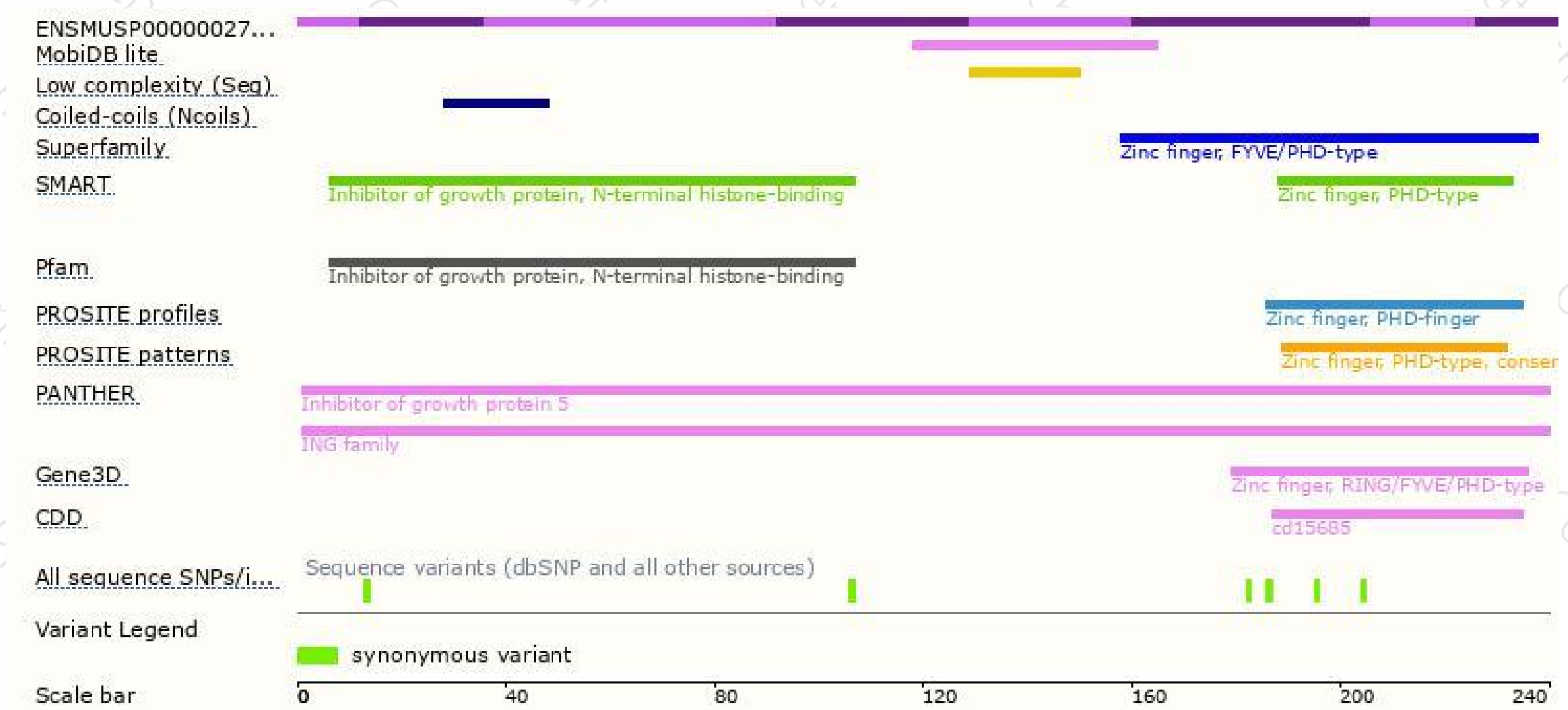
The strategy is based on the design of *Ing5-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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