

Ing3 Cas9-CKO Strategy

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Project Overview

Project Name

Ing3

Project type

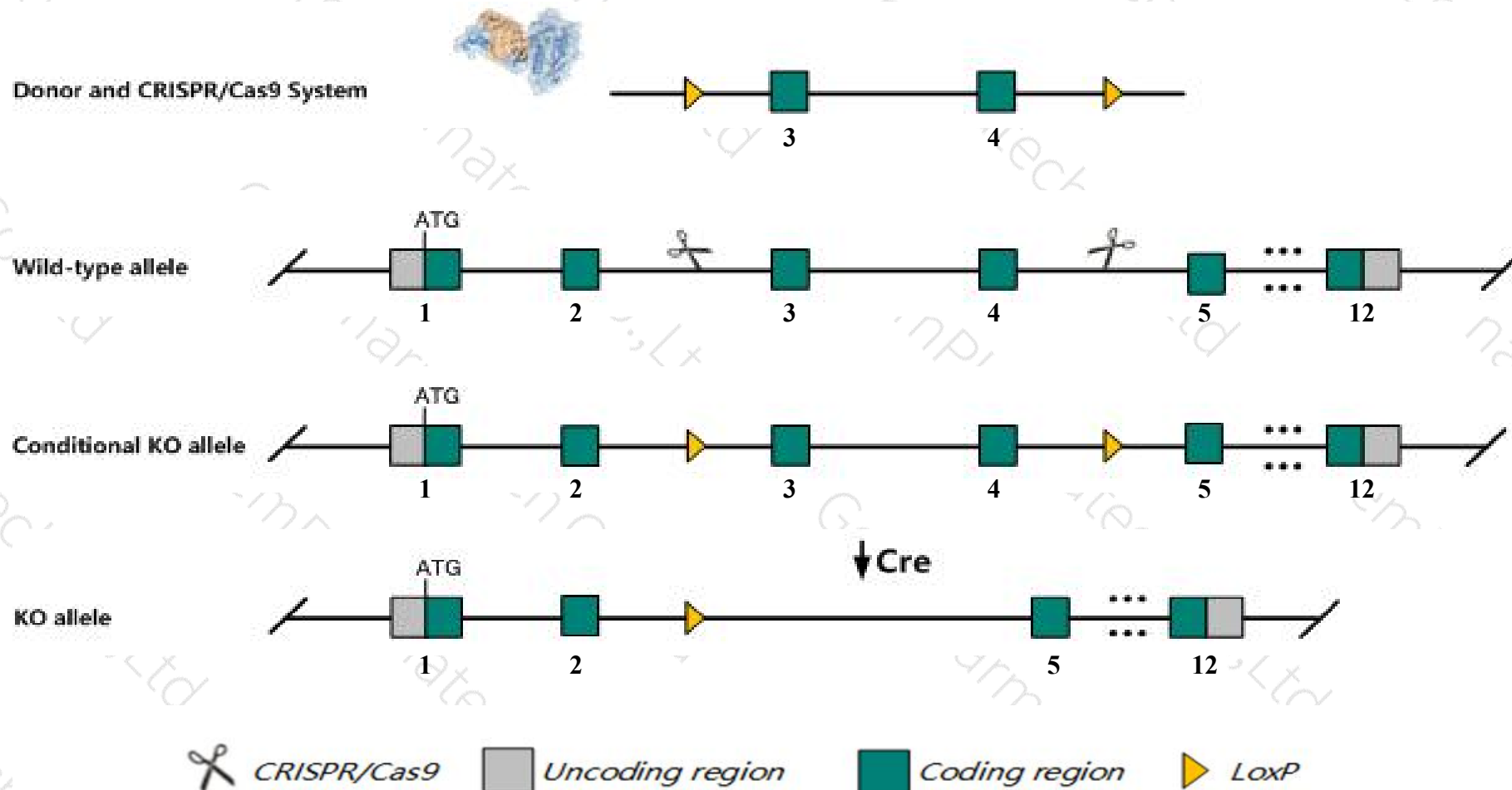
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ing3* gene. The schematic diagram is as follows:



Technical routes

- The *Ing3* gene has 8 transcripts. According to the structure of *Ing3* gene, exon3-exon4 of *Ing3-201* (ENSMUST00000031680.9) transcript is recommended as the knockout region. The region contains 167bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ing3* 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.

Notice

- The *Ing3* gene is located on the Chr6. 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)

Ing3 inhibitor of growth family, member 3 [Mus musculus (house mouse)]

Gene ID: 71777, updated on 31-Jan-2019

Summary



Official Symbol	Ing3 provided by MGI
Official Full Name	inhibitor of growth family, member 3 provided by MGI
Primary source	MGI:MGI:1919027
See related	Ensembl:ENSMUSG00000029670
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	1300013A07Rik, P47ING3
Expression	Ubiquitous expression in placenta adult (RPKM 6.3), CNS E11.5 (RPKM 4.1) and 26 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ing3-201	ENSMUST00000031680.9	3800	421aa	Protein coding	CCDS39434	Q8VEK6	TSL:1 GENCODE basic APPRIS P1
Ing3-202	ENSMUST00000115389.7	2546	410aa	Protein coding	CCDS80491	D3YUP8	TSL:5 GENCODE basic
Ing3-207	ENSMUST00000151473.7	889	264aa	Protein coding	-	D3YX13	CDS 3' incomplete TSL:5
Ing3-206	ENSMUST00000149728.6	399	121aa	Protein coding	-	A0A0N4SW64	CDS 3' incomplete TSL:2
Ing3-203	ENSMUST00000136200.7	1847	56aa	Nonsense mediated decay	-	S4R2I3	TSL:1
Ing3-208	ENSMUST00000152877.7	1277	93aa	Nonsense mediated decay	-	S4R1J3	TSL:5
Ing3-205	ENSMUST00000144534.7	2659	No protein	Retained intron	-	-	TSL:1
Ing3-204	ENSMUST00000141689.1	667	No protein	Retained intron	-	-	TSL:3

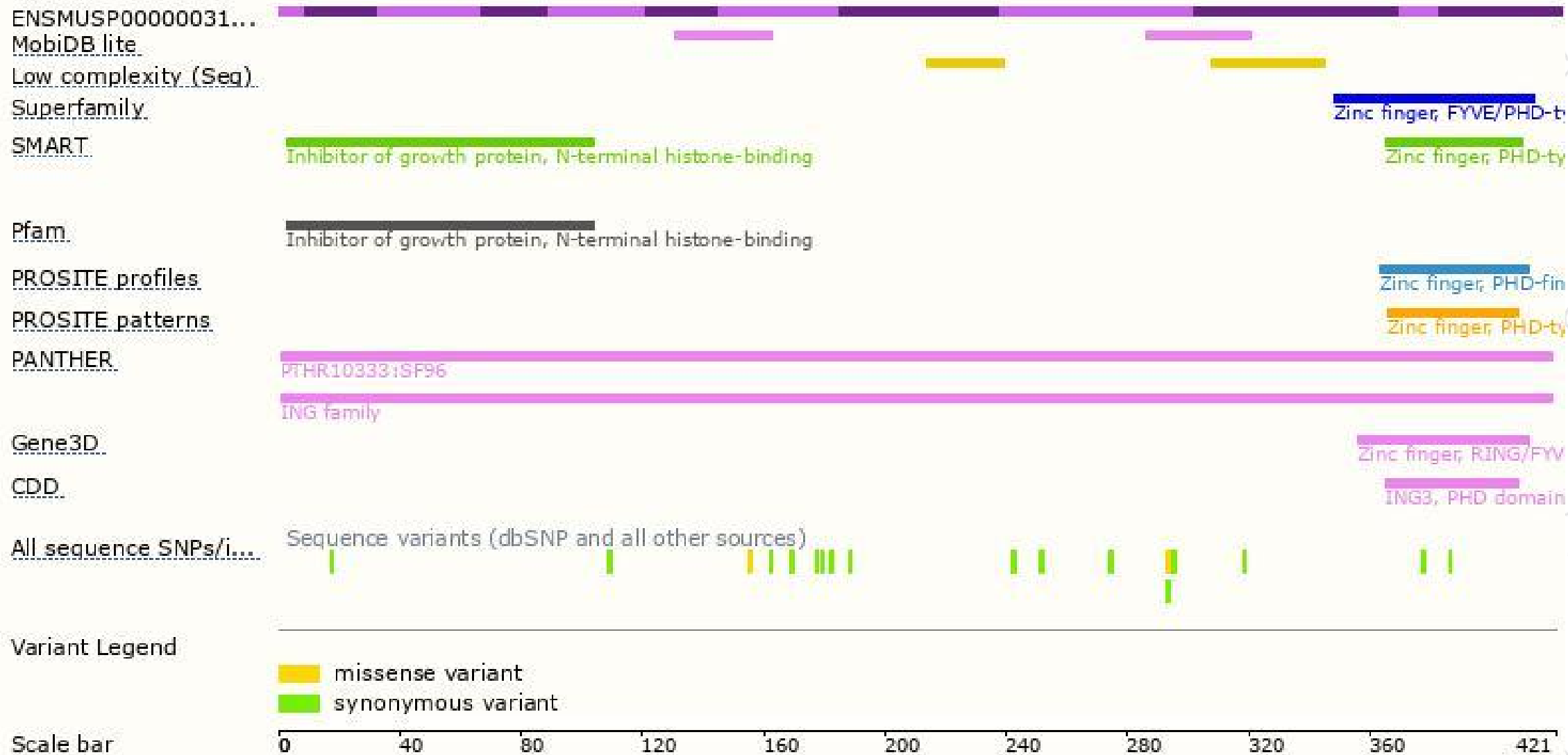
The strategy is based on the design of *Ing3-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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