

Ints8 Cas9-CKO Strategy

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Project Overview

Project Name

Ints8

Project type

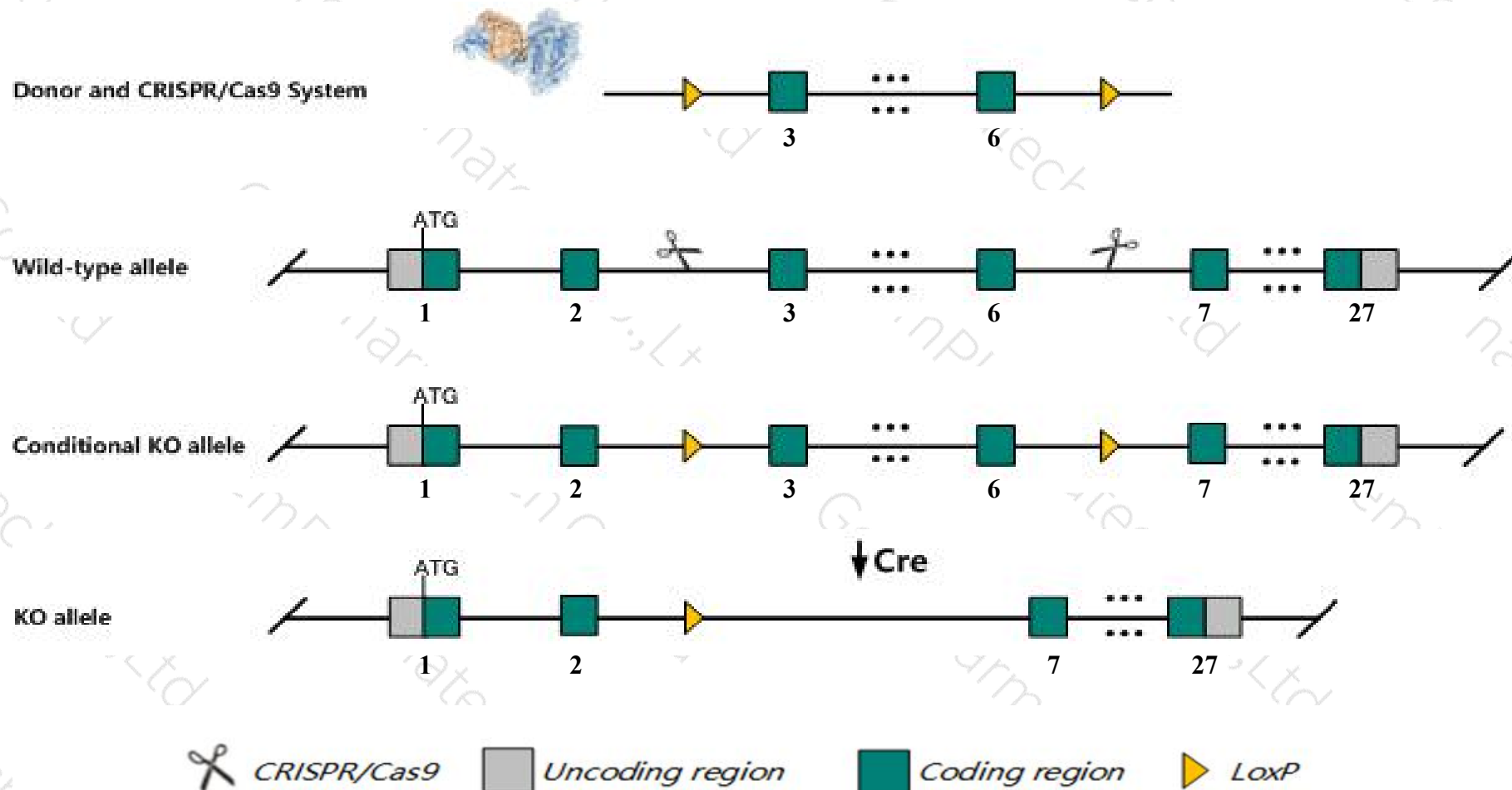
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ints8* gene. The schematic diagram is as follows:



Technical routes

- The *Ints8* gene has 8 transcripts. According to the structure of *Ints8* gene, exon3-exon6 of *Ints8-201* (ENSMUST00000044616.9) transcript is recommended as the knockout region. The region contains 448bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ints8* 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

- Transcripts 204,205,206,207,208 may not be affected.
- The *Ints8* gene is located on the Chr4. 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)

Ints8 integrator complex subunit 8 [*Mus musculus* (house mouse)]

Gene ID: 72656, updated on 12-Aug-2019

Summary

Official Symbol	Ints8 provided by MGI
Official Full Name	integrator complex subunit 8 provided by MGI
Primary source	MGI:MGI:1919906
See related	Ensembl:ENSMUSG00000040738
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	AV063769; 2810013E07Rik; D130008D20Rik
Expression	Broad expression in CNS E11.5 (RPKM 10.6), liver E14 (RPKM 8.4) and 25 other tissues See more
Orthologs	human all

Genomic context

Location: 4; 4 A1

Exon count: 29

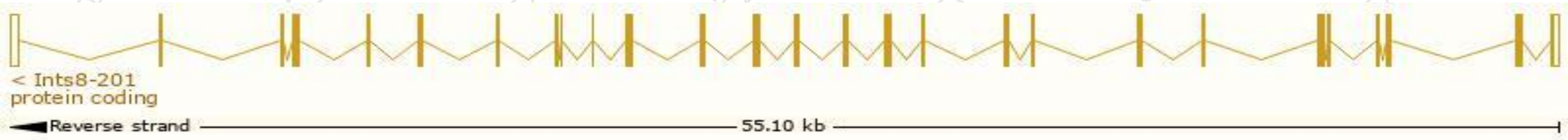
See Ints8 in [Genome Data Viewer](#)

Transcript information (Ensembl)

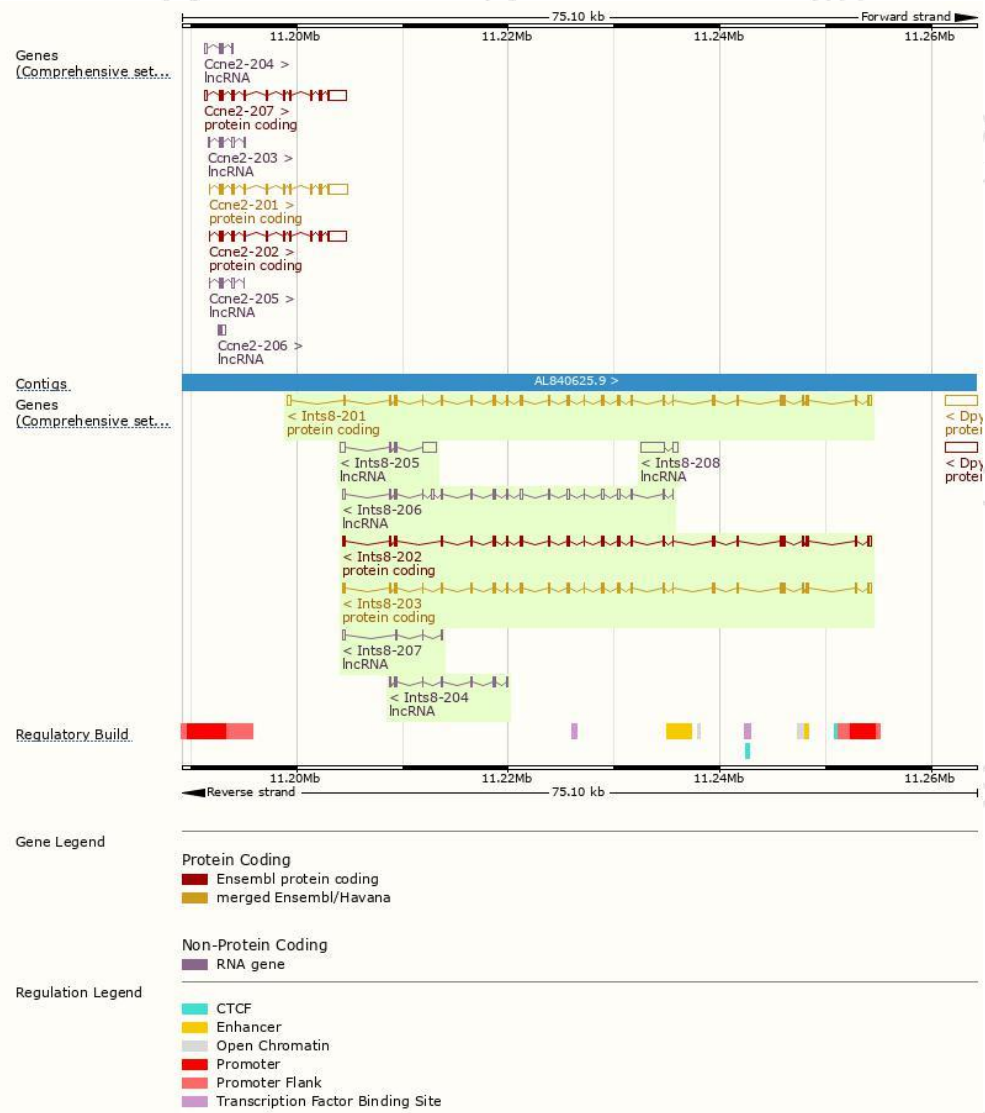
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ints8-201	ENSMUST00000044616.9	3433	995aa	Protein coding	CCDS17967	Q80V86	TSL:1 GENCODE basic APPRIS P1
Ints8-203	ENSMUST00000108319.8	3220	995aa	Protein coding	CCDS17967	Q80V86	TSL:1 GENCODE basic APPRIS P1
Ints8-202	ENSMUST00000108318.2	3169	978aa	Protein coding	-	A2API3	TSL:5 GENCODE basic
Ints8-208	ENSMUST00000147372.1	2604	No protein	lncRNA	-	-	TSL:2
Ints8-206	ENSMUST00000137054.7	2145	No protein	lncRNA	-	-	TSL:1
Ints8-205	ENSMUST00000136545.7	1961	No protein	lncRNA	-	-	TSL:1
Ints8-204	ENSMUST00000133031.1	657	No protein	lncRNA	-	-	TSL:5
Ints8-207	ENSMUST00000145252.7	372	No protein	lncRNA	-	-	TSL:5

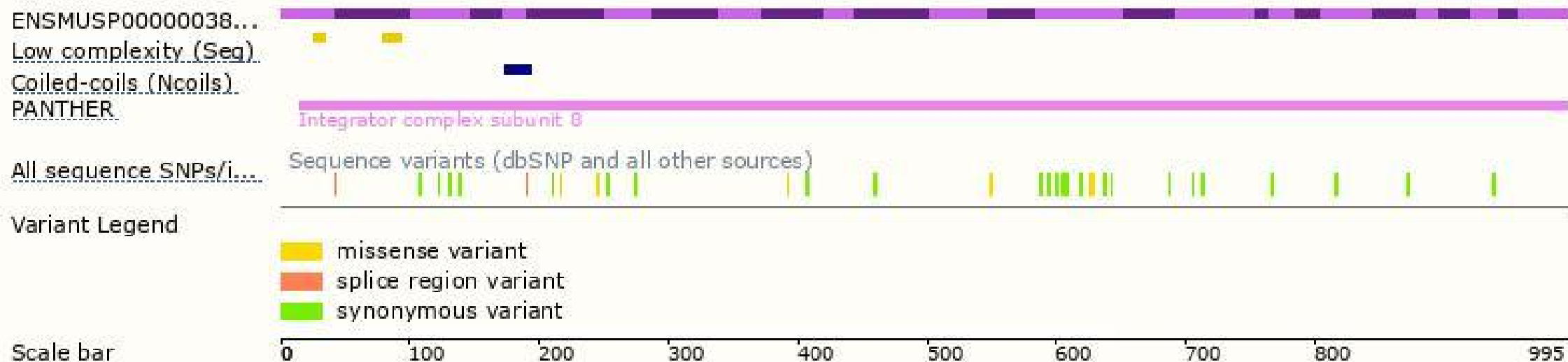
The strategy is based on the design of *Ints8-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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