

Ints3 Cas9-KO Strategy

Designer:

Yanhua Shen

Reviewer:

Xueting Zhang

Design Date:

2020-01-21

Project Overview

Project Name

Ints3

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ints3* gene. The schematic diagram is as follows:



- The *Ints3* gene has 7 transcripts. According to the structure of *Ints3* gene, exon4-exon20 of *Ints3-201* (ENSMUST00000029542.11) transcript is recommended as the knockout region. The region contains 1772bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ints3* gene. The brief process is as follows: CRISPR/Cas9 system v

- The *Ints3* gene is located on the Chr3. 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)

Ints3 integrator complex subunit 3 [*Mus musculus* (house mouse)]

Gene ID: 229543, updated on 10-Oct-2019

Summary

Official Symbol	Ints3 provided by MGI
Official Full Name	integrator complex subunit 3 provided by MGI
Primary source	MGI:MGI:2140050
See related	Ensembl:ENSMUSG00000027933
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	C77668
Expression	Ubiquitous expression in placenta adult (RPKM 22.5), ovary adult (RPKM 19.2) and 28 other tissues See more
Orthologs	human all

Genomic context

Location: 3; 3 F1

Exon count: 30

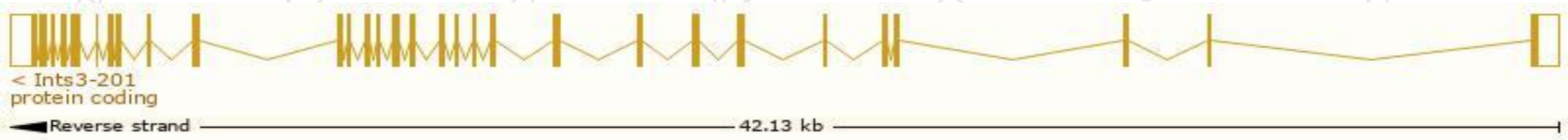
See Ints3 in [Genome Data Viewer](#)

Transcript information (Ensembl)

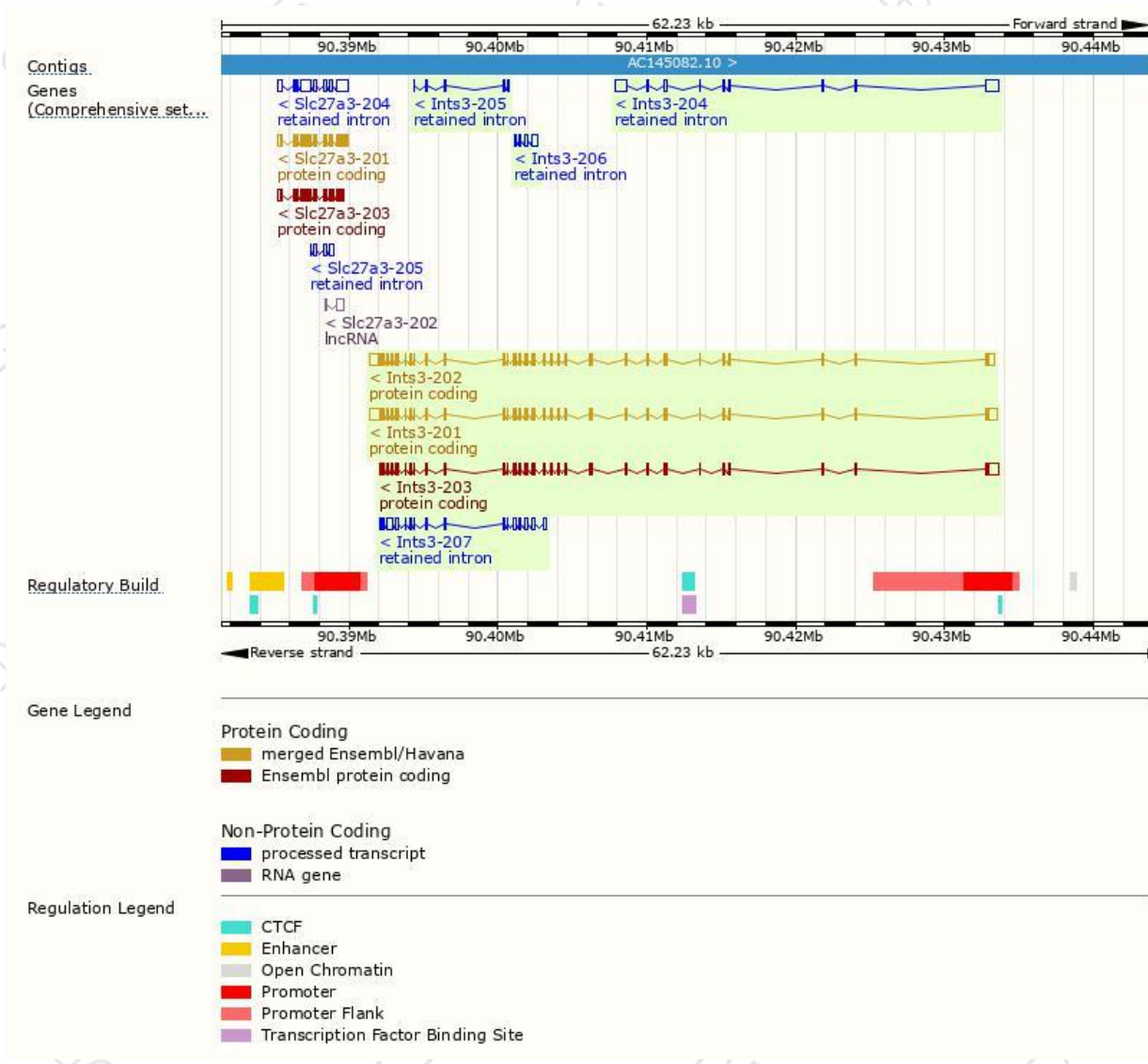
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ints3-201	ENSMUST00000029542.11	4337	1041aa	Protein coding	CCDS17528	Q7TPD0	TSL:1 GENCODE basic APPRIS P2
Ints3-202	ENSMUST00000071488.7	4038	1041aa	Protein coding	CCDS17528	Q7TPD0	TSL:1 GENCODE basic APPRIS P2
Ints3-203	ENSMUST00000196530.1	3778	1035aa	Protein coding	-	A0A0G2JFJ6	TSL:1 GENCODE basic APPRIS ALT2
Ints3-204	ENSMUST00000198562.1	2226	No protein	Retained intron	-	-	TSL:1
Ints3-207	ENSMUST00000199992.4	1891	No protein	Retained intron	-	-	TSL:2
Ints3-206	ENSMUST00000199158.1	619	No protein	Retained intron	-	-	TSL:3
Ints3-205	ENSMUST00000198776.1	556	No protein	Retained intron	-	-	TSL:3

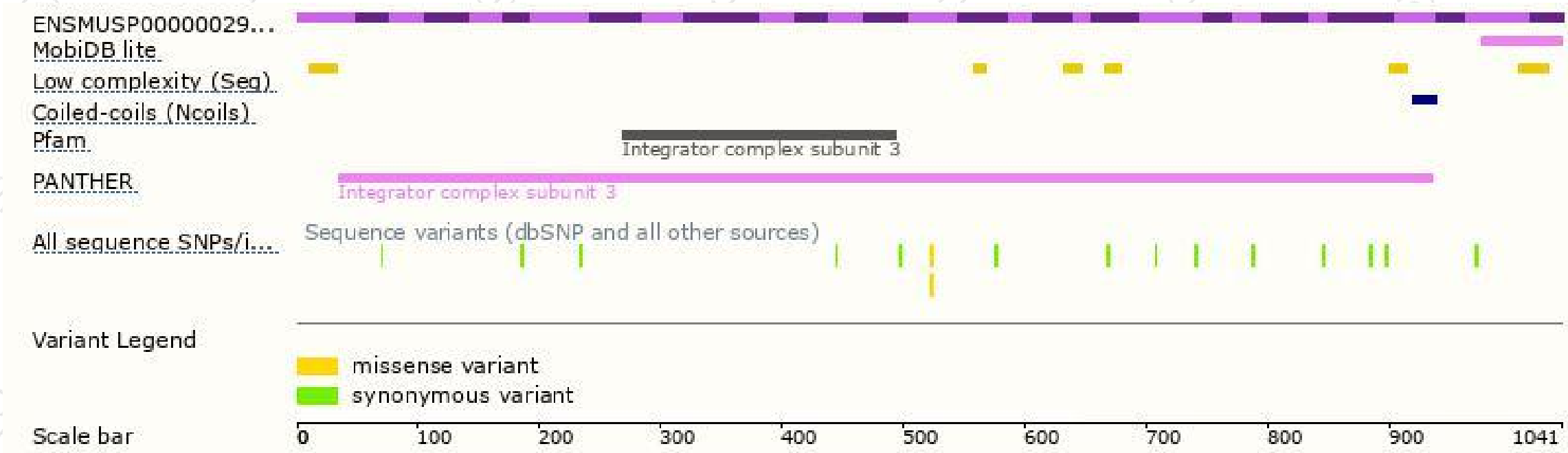
The strategy is based on the design of *Ints3-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

