

Izumo3 Cas9-KO Strategy

Designer: Yanhua Shen

Reviewer: Xueting Zhang

Design Date: 2020-2-3

Project Overview

Project Name

Izumo3

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Izumo3* gene. The schematic diagram is as follows:



- The *Izumo3* gene has 2 transcripts. According to the structure of *Izumo3* gene, exon1-exon7 of *Izumo3-201* (ENSMUST00000107108.7) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Izumo3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Izumo3* 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Izumo3 IZUMO family member 3 [*Mus musculus* (house mouse)]

Gene ID: 69314, updated on 12-Aug-2019

Summary



Official Symbol	Izumo3 provided by MGI
Official Full Name	IZUMO family member 3 provided by MGI
Primary source	MGI:MGI:1916564
See related	Ensembl:ENSMUSG00000028533
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	1700011H22Rik
Expression	Restricted expression toward testis adult (RPKM 9.1) See more
Orthologs	human all

Genomic context



Location: 4; 4 C5

Exon count: 7

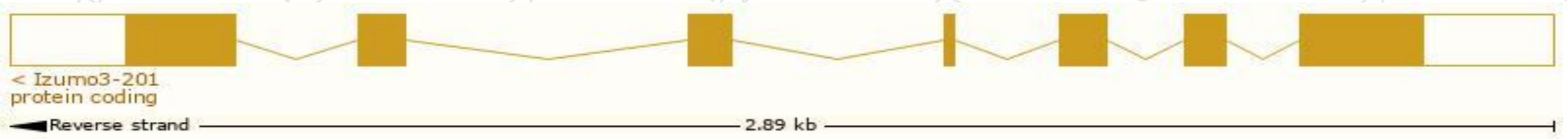
See Izumo3 in [Genome Data Viewer](#)

Transcript information (Ensembl)

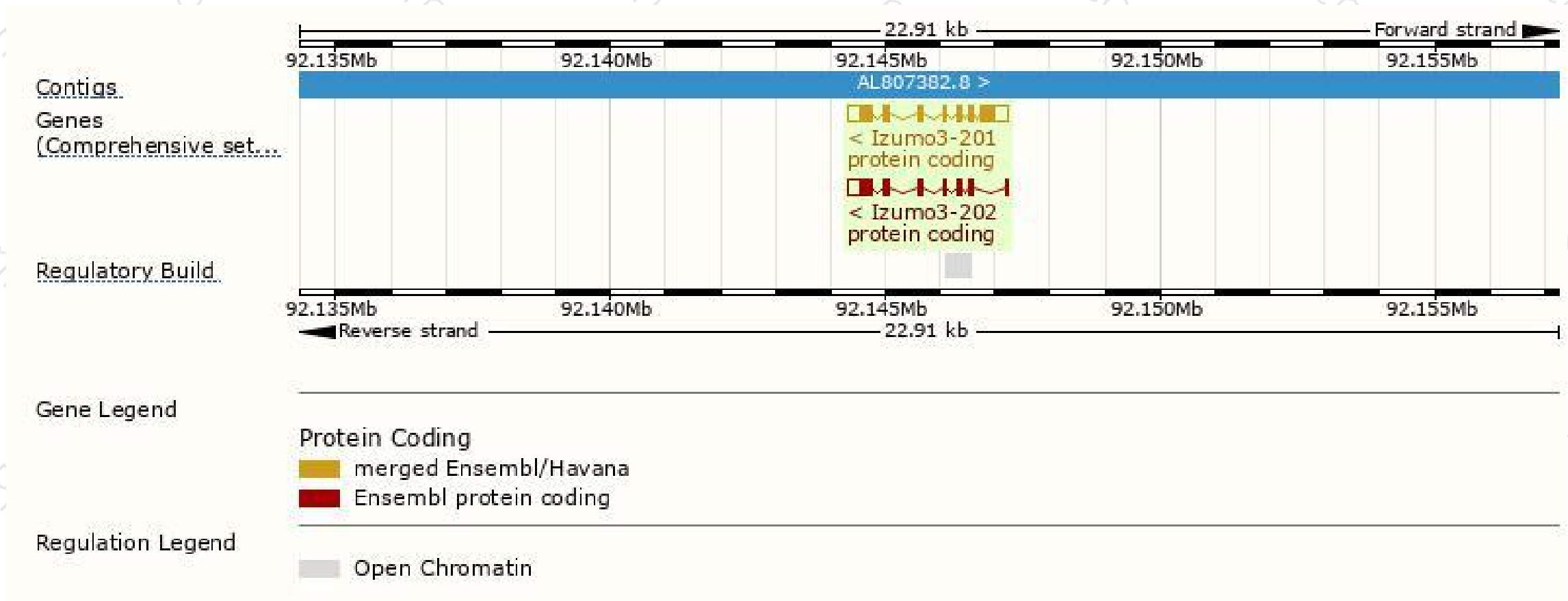
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Izumo3-201	ENSMUST00000107108.7	1252	263aa	Protein coding	CCDS51231	A6PWV3	TSL:1 GENCODE basic APPRIS P1
Izumo3-202	ENSMUST00000143542.1	790	193aa	Protein coding	-	F6T8K1	CDS 5' incomplete TSL:1

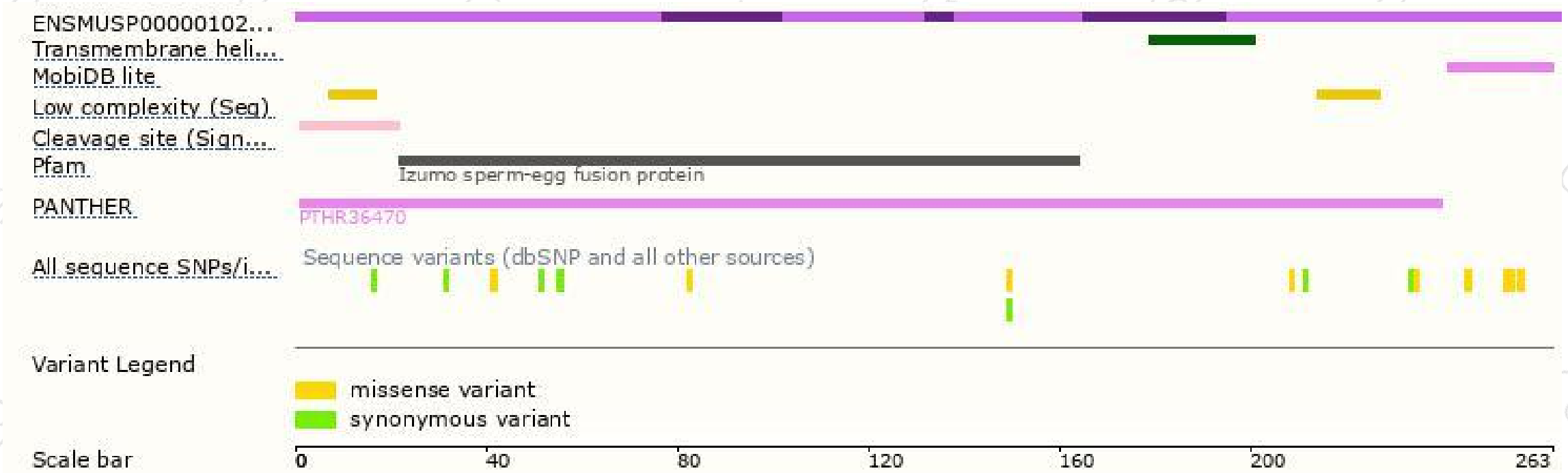
The strategy is based on the design of *Izumo3-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

