

Hs6st2 Cas9-KO Strategy

Designer:

JiaYu

Reviewer:

Xiaojing Li

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Project Overview

Project Name

Hs6st2

Project type

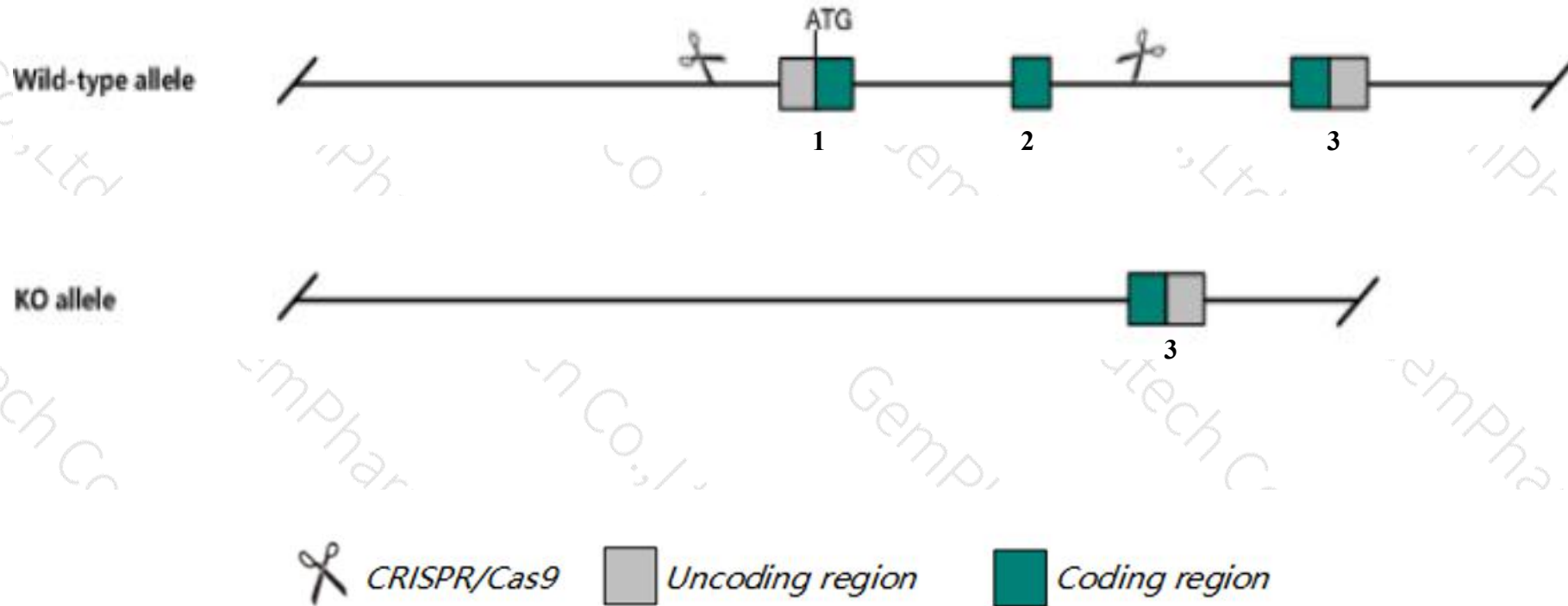
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Hs6st2* gene. The schematic diagram is as follows:



- The *Hs6st2* gene has 5 transcripts. According to the structure of *Hs6st2* gene, exon1-exon2 of *Hs6st2-202* (ENSMUST00000114871.1) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Hs6st2* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Female homozygous or male hemizygous mice for a disruption in this gene display a normal phenotype.
- The *Hs6st2* gene is located on the ChrX. 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)

Hs6st2 heparan sulfate 6-O-sulfotransferase 2 [Mus musculus (house mouse)]

Gene ID: 50786, updated on 31-Jan-2019

Summary



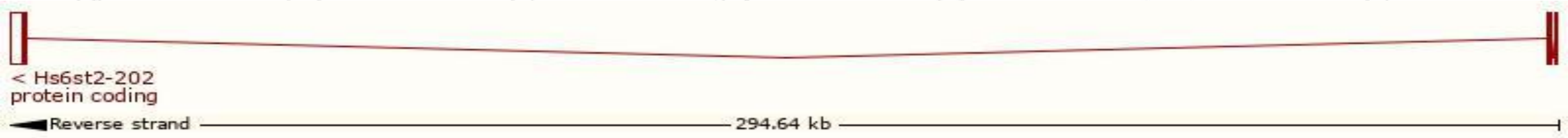
Official Symbol	Hs6st2 provided by MGI
Official Full Name	heparan sulfate 6-O-sulfotransferase 2 provided by MGI
Primary source	MGI:MGI:1354959
See related	Ensembl:ENSMUSG00000062184
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	6OST2
Expression	Biased expression in CNS E18 (RPKM 5.4), limb E14.5 (RPKM 4.6) and 13 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

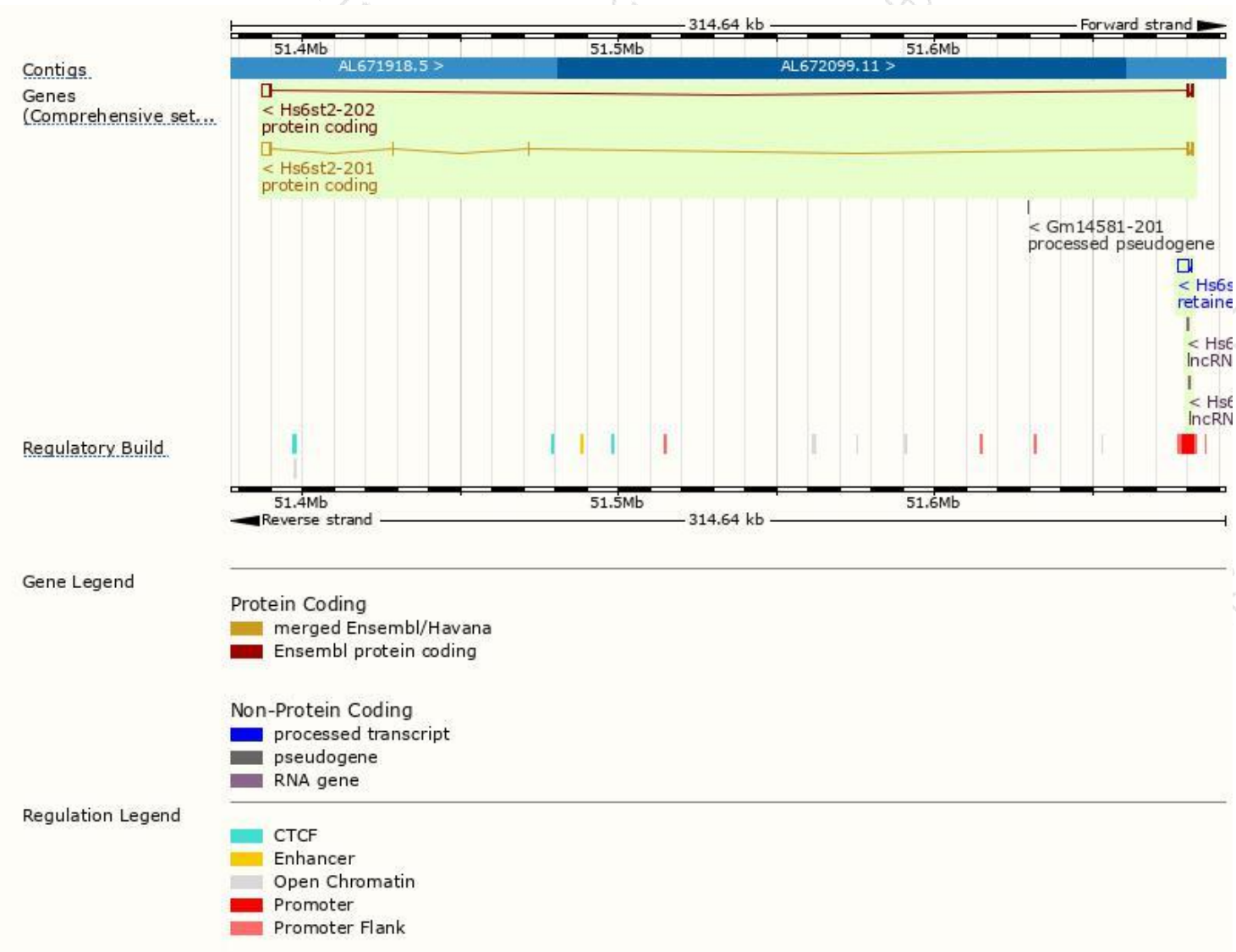
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Hs6st2-202	ENSMUST00000114871.1	4351	612aa	Protein coding	CCDS72379	Q80UW0	TSL:1 GENCODE basic APPRIS P1
Hs6st2-201	ENSMUST00000088172.11	4318	652aa	Protein coding	CCDS40970	Q80UW0	TSL:1 GENCODE basic
Hs6st2-204	ENSMUST00000142738.1	3800	No protein	Retained intron	-	-	TSL:2
Hs6st2-205	ENSMUST00000142983.1	456	No protein	lncRNA	-	-	TSL:2
Hs6st2-203	ENSMUST00000140145.1	421	No protein	lncRNA	-	-	TSL:3

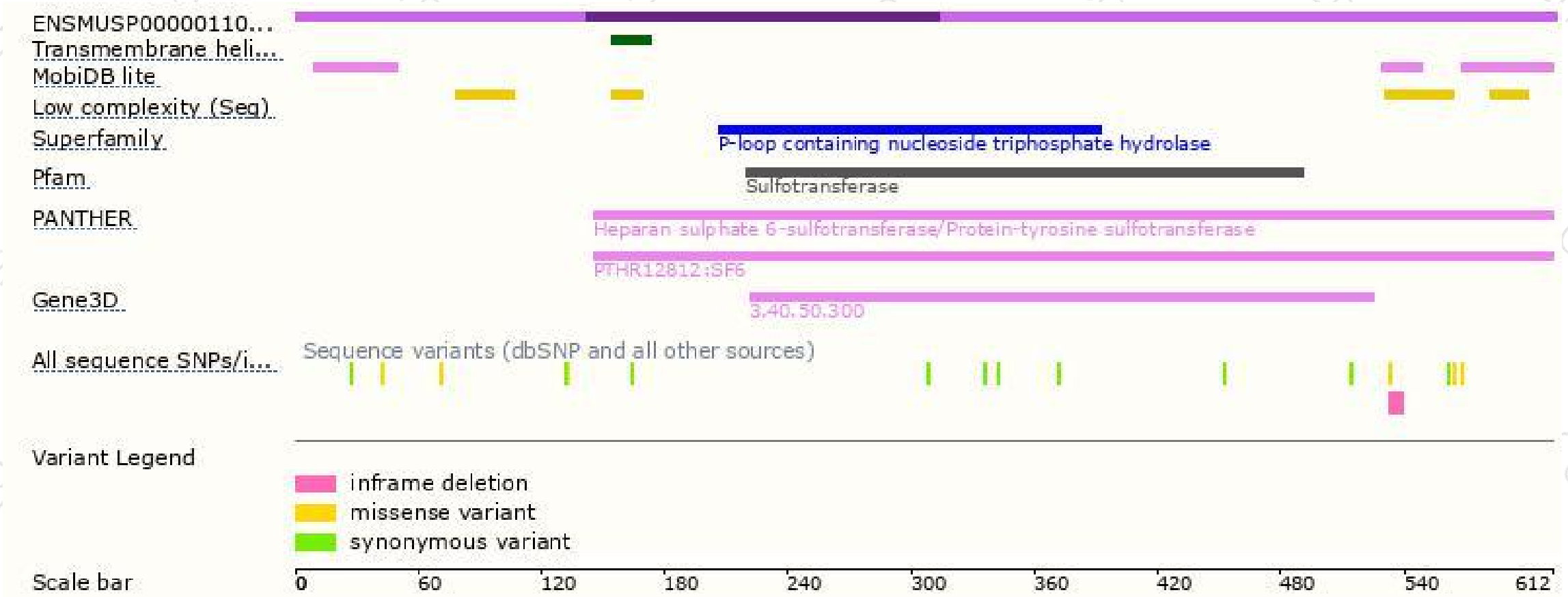
The strategy is based on the design of *Hs6st2-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

