

***Sult1b1* Cas9-CKO Strategy**

Designer: Xueting Zhang

Reviewer: Yanhua Shen

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Project Overview

Project Name

Sult1b1

Project type

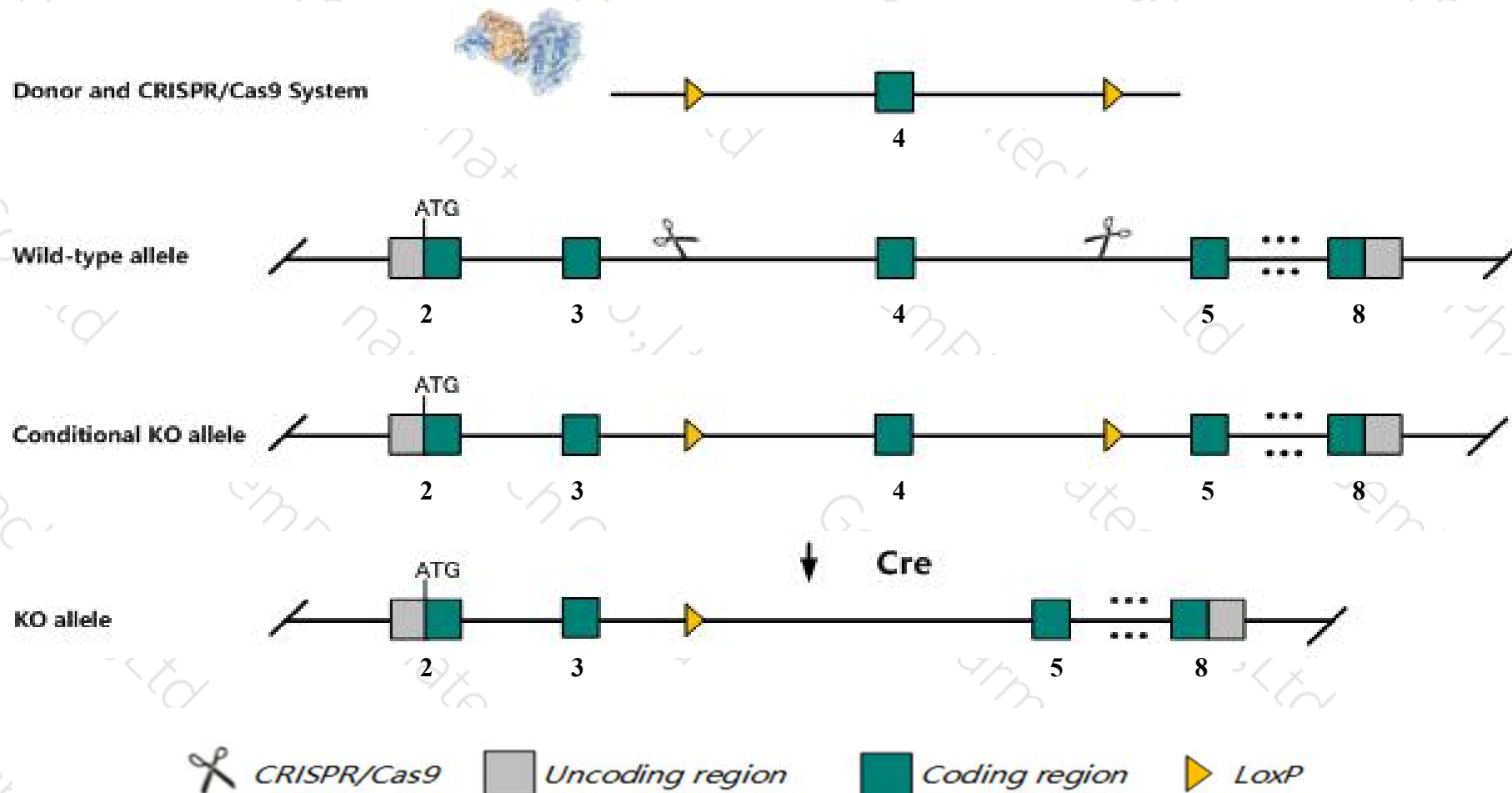
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Sult1b1* gene. The schematic diagram is as follows:



- The *Sult1b1* gene has 3 transcripts. According to the structure of *Sult1b1* gene, exon4 of *Sult1b1*-202(ENSMUST00000117455.7) transcript is recommended as the knockout region. The region contains 98bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Sult1b1* 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.

- The *Sult1b1* gene is located on the Chr5. 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.
- The N-terminal of *Sult1b1* gene will remain several amino acids ,it may remain the partial function of *Sult1b1* gene.
- 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)

Sult1b1 sulfotransferase family 1B, member 1 [Mus musculus (house mouse)]

Gene ID: 56362, updated on 31-Jan-2019

Summary



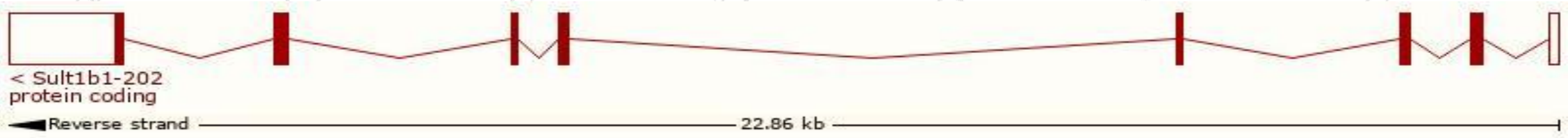
Official Symbol	Sult1b1 provided by MGI
Official Full Name	sulfotransferase family 1B, member 1 provided by MGI
Primary source	MGI:MGI:2136282
See related	Ensembl:ENSMUSG00000029269
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	ST1B1, St2b2
Expression	Biased expression in large intestine adult (RPKM 7.1), colon adult (RPKM 1.6) and 6 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

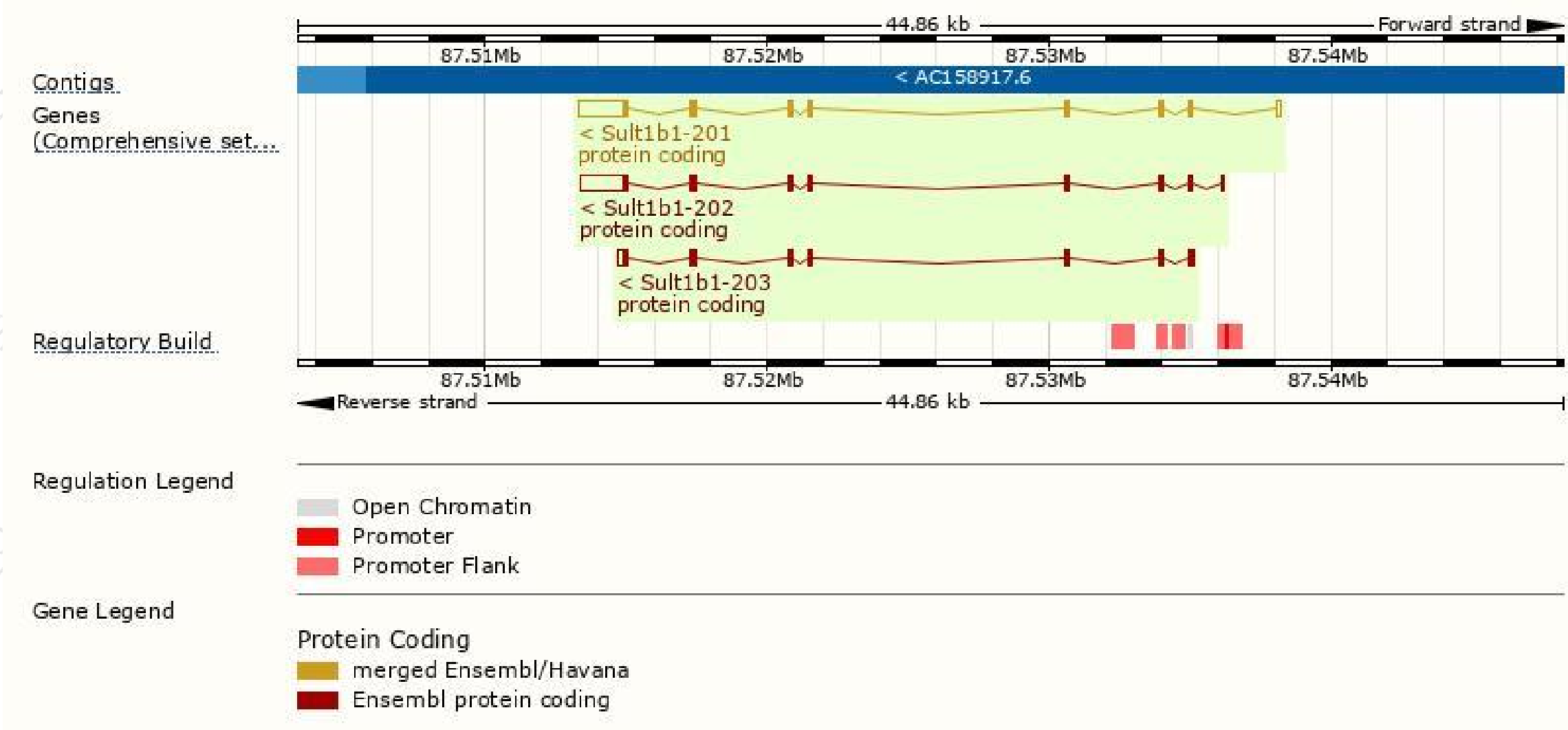
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Sult1b1-202	ENSMUST00000117455.7	2612	299aa	Protein coding	CCDS19391	Q9QWG7	TSL:5 GENCODE basic APPRIS P1
Sult1b1-201	ENSMUST00000031199.10	2604	299aa	Protein coding	CCDS19391	Q9QWG7	TSL:1 GENCODE basic APPRIS P1
Sult1b1-203	ENSMUST00000120150.1	1213	299aa	Protein coding	CCDS19391	Q9QWG7	TSL:1 GENCODE basic APPRIS P1

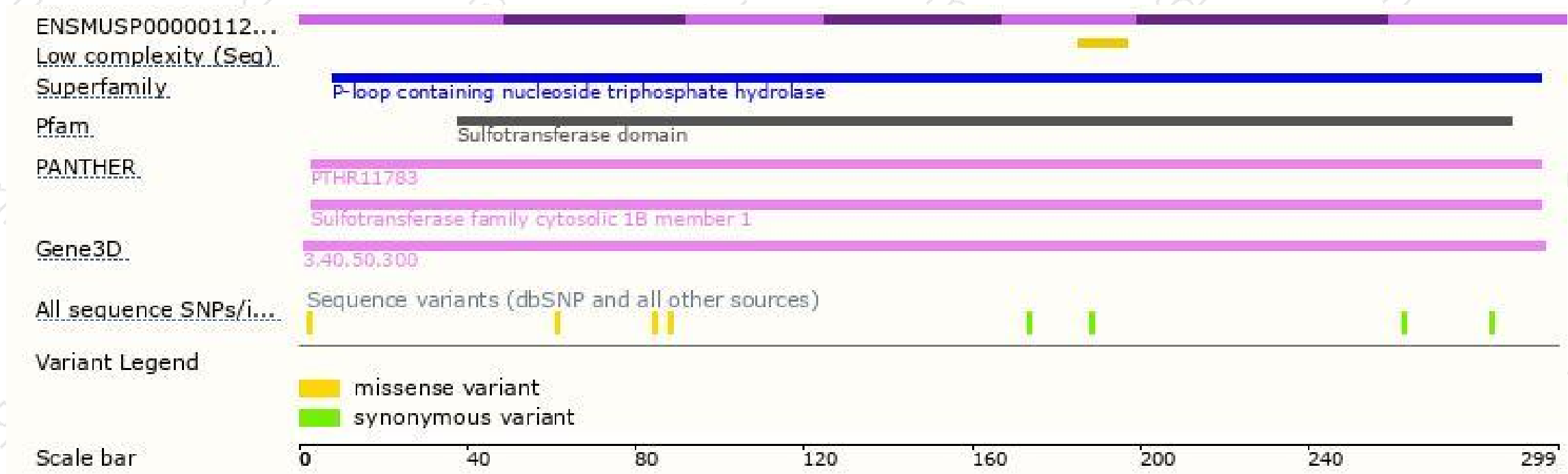
The strategy is based on the design of *Sult1b1-202* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

Tel: 400-9660890

