

Slc15a5 Cas9-KO Strategy

Designer: Lingyan Wu

Reviewer: Rui Xiong

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Project Overview

Project Name

Slc15a5

Project type

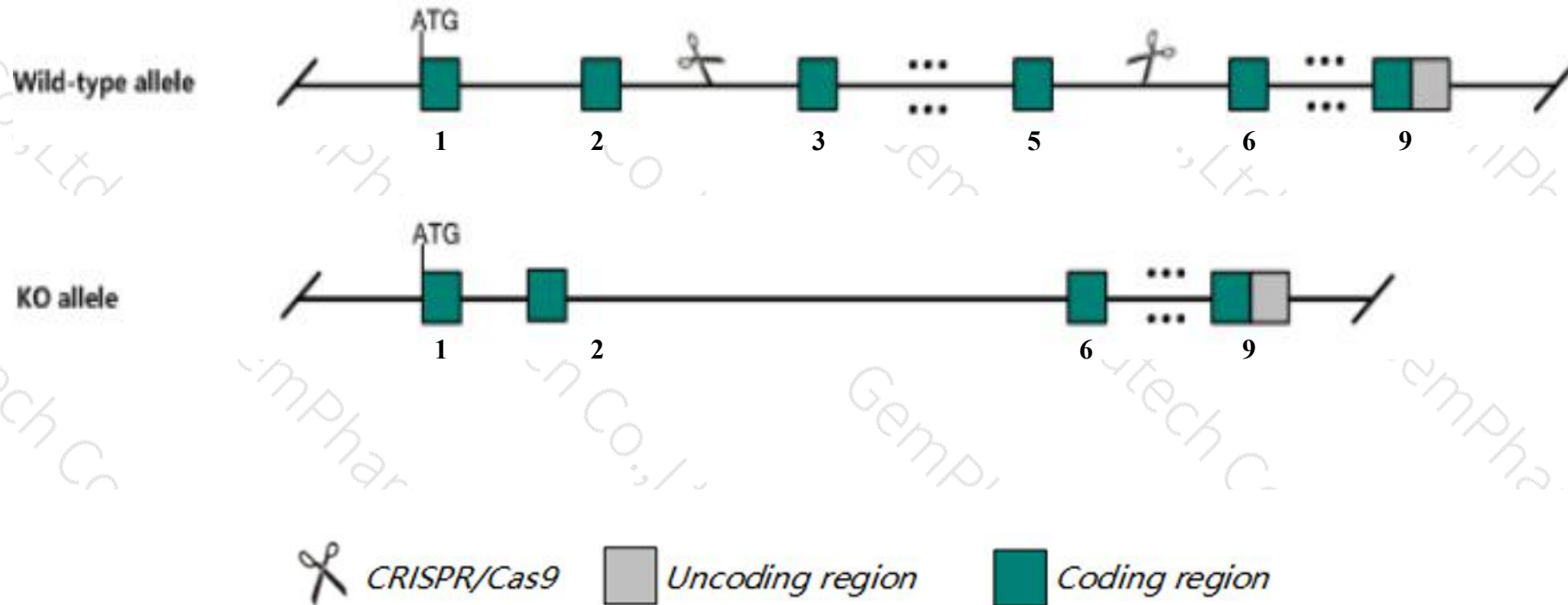
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc15a5* gene. The schematic diagram is as follows:



- The *Slc15a5* gene has 6 transcripts. According to the structure of *Slc15a5* gene, exon3-exon5 of *Slc15a5*-206 (ENSMUST00000171804.3) transcript is recommended as the knockout region. The region contains 578bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc15a5* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Slc15a5* gene is located on the Chr6. 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 *Slc15a5* gene will remain several amino acids ,it may remain the partial function of *Slc15a5* gene.
- 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)

Slc15a5 solute carrier family 15, member 5 [Mus musculus (house mouse)]

Gene ID: 277898, updated on 20-Mar-2020

Summary



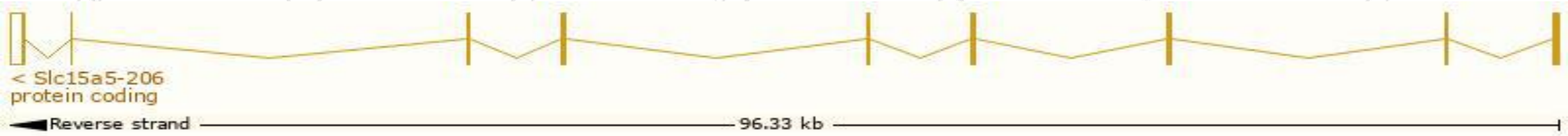
Official Symbol	Slc15a5 provided by MGI
Official Full Name	solute carrier family 15, member 5 provided by MGI
Primary source	MGI:MGI:3607714
See related	Ensembl:ENSMUSG00000044378
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	9830102E05Rik
Expression	Low expression observed in reference dataset See more
Orthologs	human all

Transcript information (Ensembl)

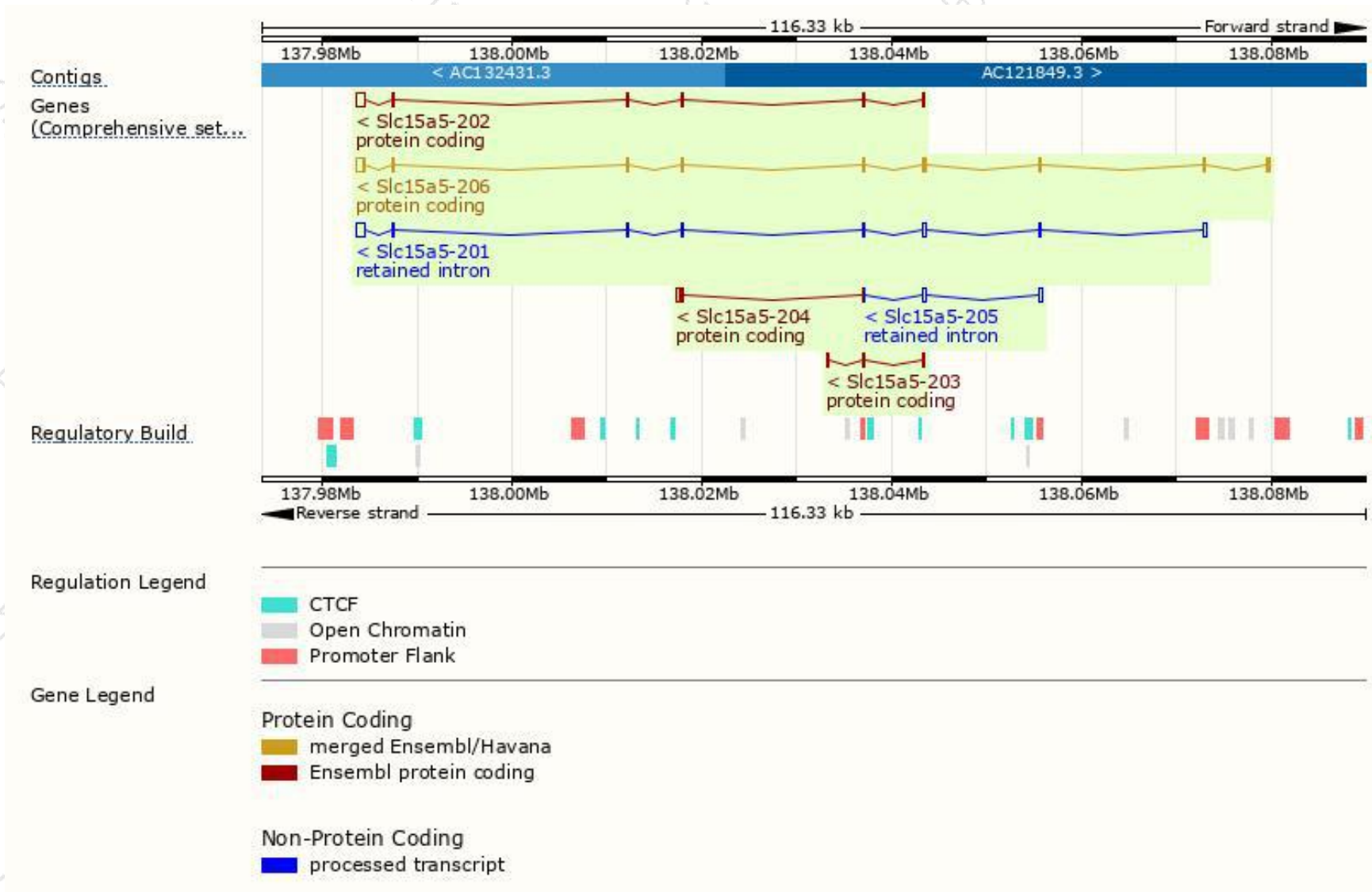
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc15a5-206	ENSMUST00000171804.3	2461	566aa	Protein coding	-	Q8CBB2	TSL:5 GENCODE basic APPRIS P1
Slc15a5-202	ENSMUST00000111873.7	1512	228aa	Protein coding	-	D3Z234	CDS 5' incomplete TSL:1
Slc15a5-204	ENSMUST00000150278.2	528	69aa	Protein coding	-	A0A0N4SVQ7	CDS 5' incomplete TSL:5
Slc15a5-203	ENSMUST00000141280.2	399	109aa	Protein coding	-	A0A0N4SVM7	CDS 5' incomplete TSL:2
Slc15a5-201	ENSMUST00000050132.9	2242	No protein	Retained intron	-	-	TSL:1
Slc15a5-205	ENSMUST00000154461.1	452	No protein	Retained intron	-	-	TSL:3

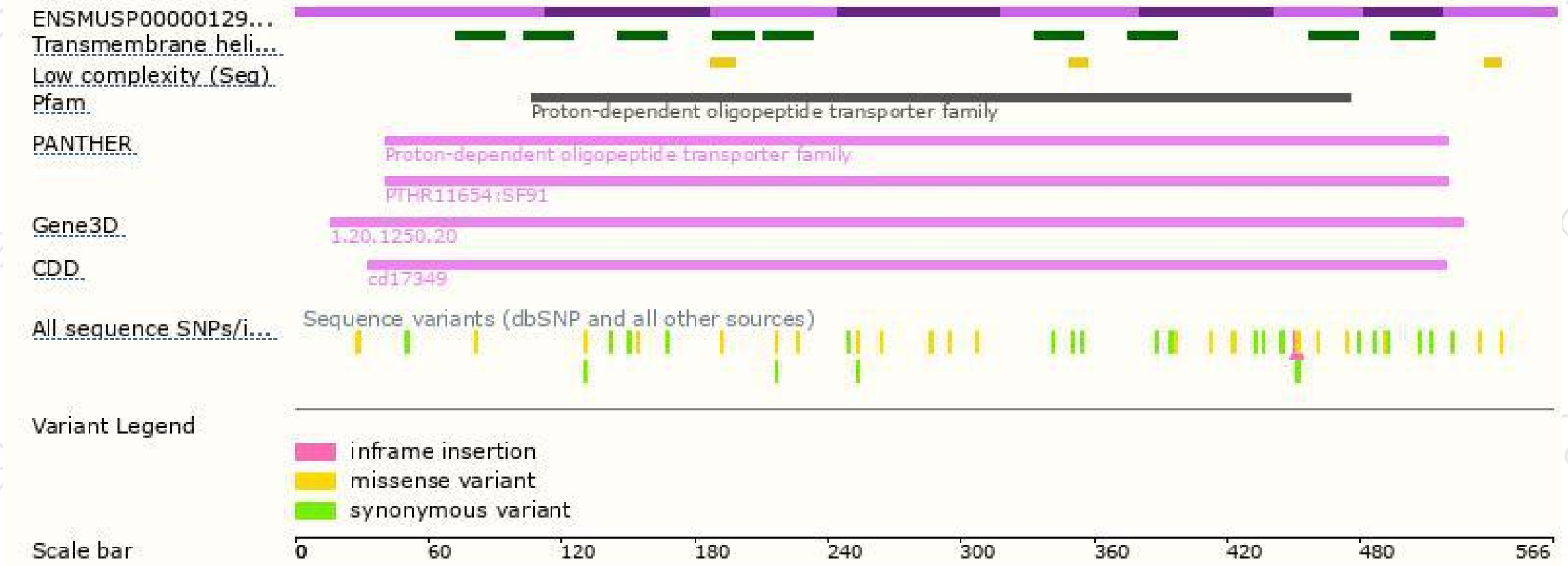
The strategy is based on the design of *Slc15a5-206* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

Tel: 400-9660890

