

Slc28a1 Cas9-KO Strategy

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Project Overview

Project Name

Slc28a1

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc28a1* gene. The schematic diagram is as follows:



- The *Slc28a1* gene has 2 transcripts. According to the structure of *Slc28a1* gene, exon3-exon4 of *Slc28a1*-202(ENSMUST00000119083.1) transcript is recommended as the knockout region. The region contains 181bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc28a1* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Slc28a1* gene is located on the Chr7. 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.

Slc28a1 solute carrier family 28 (sodium-coupled nucleoside transporter), member 1 [Mus musculus (house mouse)]

Gene ID: 434203, updated on 13-Mar-2020

Summary



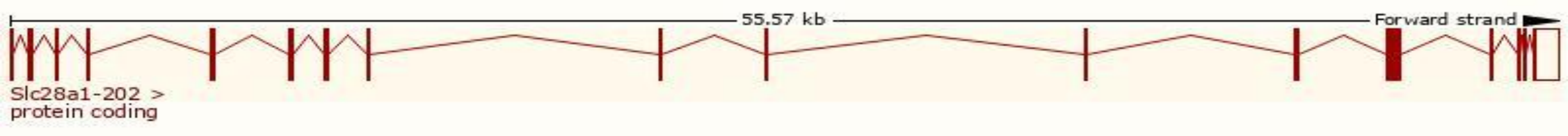
Official Symbol	Slc28a1 provided by MGI
Official Full Name	solute carrier family 28 (sodium-coupled nucleoside transporter), member 1 provided by MGI
Primary source	MGI:MGI:3605073
See related	Ensembl:ENSMUSG00000025726
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Cnt1
Expression	Biased expression in duodenum adult (RPKM 39.3), small intestine adult (RPKM 22.2) and 3 other tissues See more
Orthologs	human all

Transcript information Ensembl

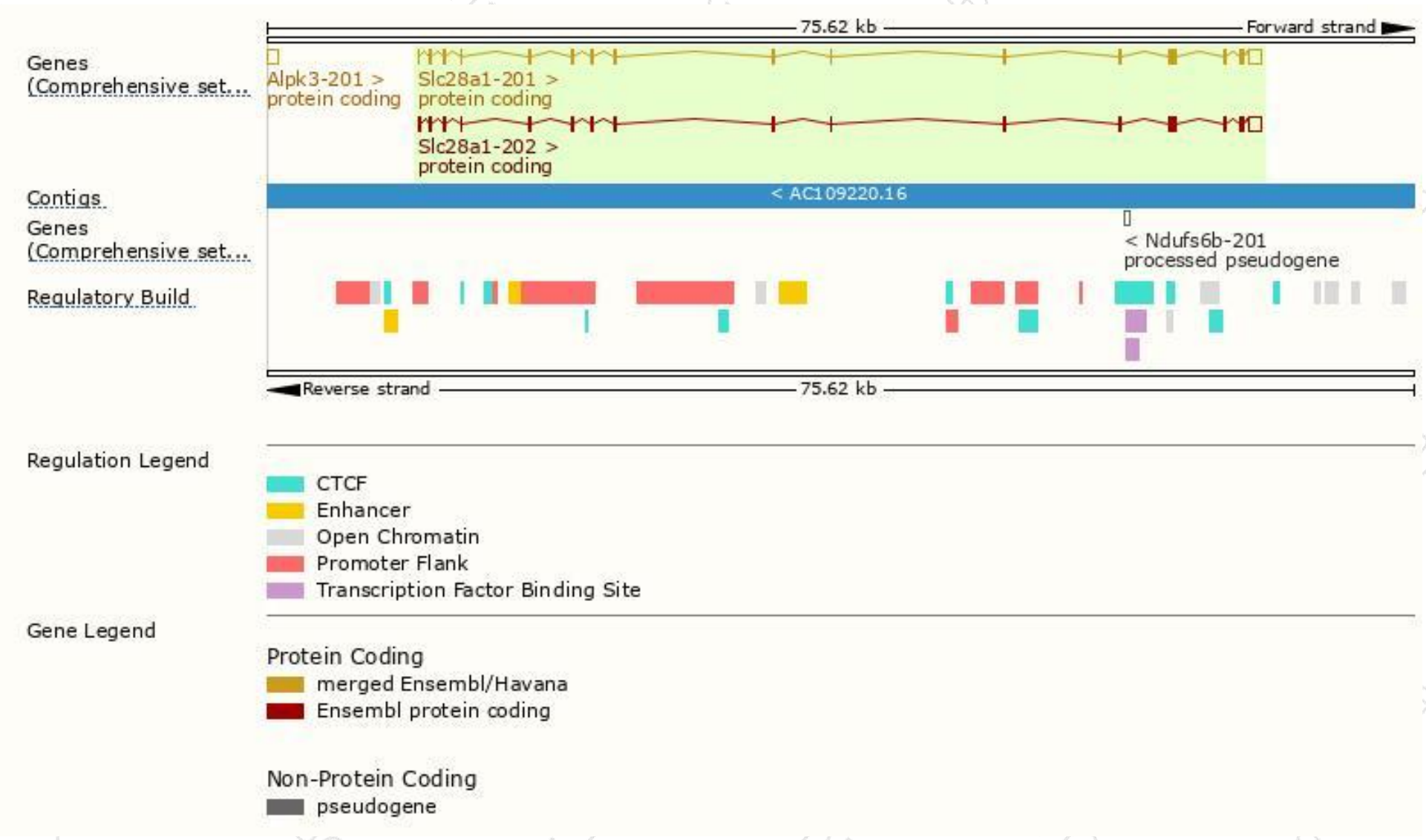
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc28a1-202	ENSMUST00000119083.1	2899	648aa	Protein coding	CCDS21402	E9PXX9	TSL:5 GENCODE basic APPRIS P1
Slc28a1-201	ENSMUST00000026820.10	2846	648aa	Protein coding	CCDS21402	E9PXX9	TSL:1 GENCODE basic APPRIS P1

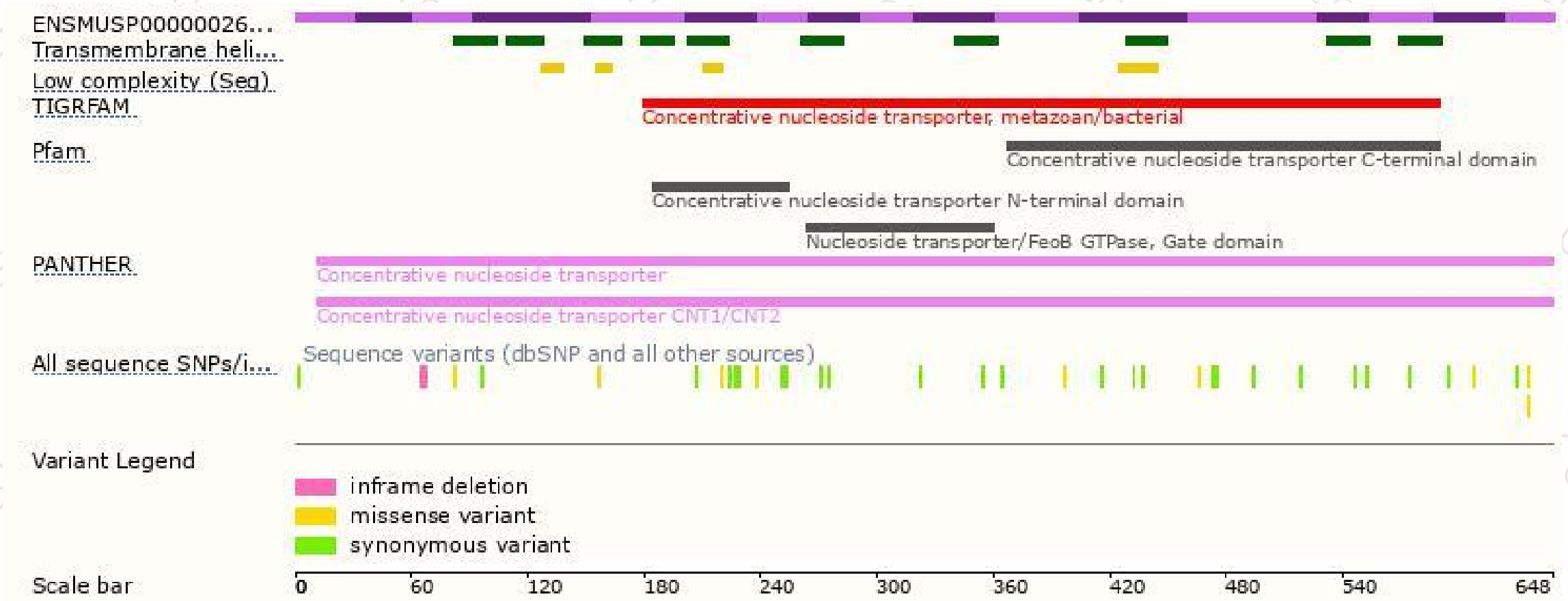
The strategy is based on the design of *Slc28a1-202* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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