

Slc6a17 Cas9-KO Strategy

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Project Overview

Project Name

Slc6a17

Project type

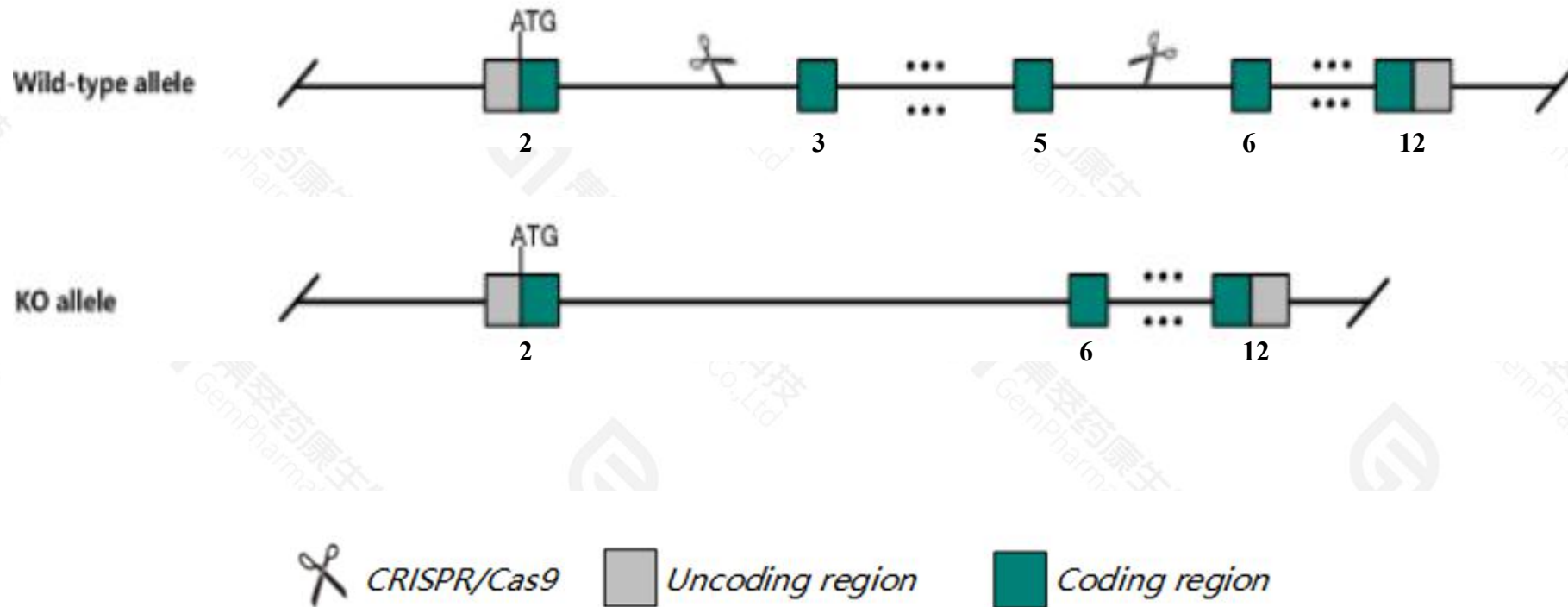
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc6a17* gene. The schematic diagram is as follows:



- The *Slc6a17* gene has 10 transcripts. According to the structure of *Slc6a17* gene, exon3-exon5 of *Slc6a17*-208(ENSMUST00000169449.8) transcript is recommended as the knockout region. The region contains 467bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc6a17* 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 *Slc6a17* gene is located on the Chr3. 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.

Slc6a17 solute carrier family 6 (neurotransmitter transporter), member 17 [Mus musculus (house mouse)]

Gene ID: 229706, updated on 17-Feb-2021

Summary



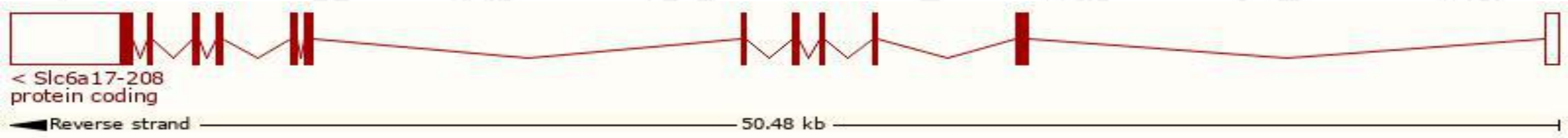
Official Symbol	Slc6a17 provided by MGI
Official Full Name	solute carrier family 6 (neurotransmitter transporter), member 17 provided by MGI
Primary source	MGI:MGI:2442535
See related	Ensembl:ENSMUSG00000027894
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	D130012J15Rik, NTT, Ntt4
Expression	Biased expression in cortex adult (RPKM 51.2), frontal lobe adult (RPKM 44.9) and 8 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

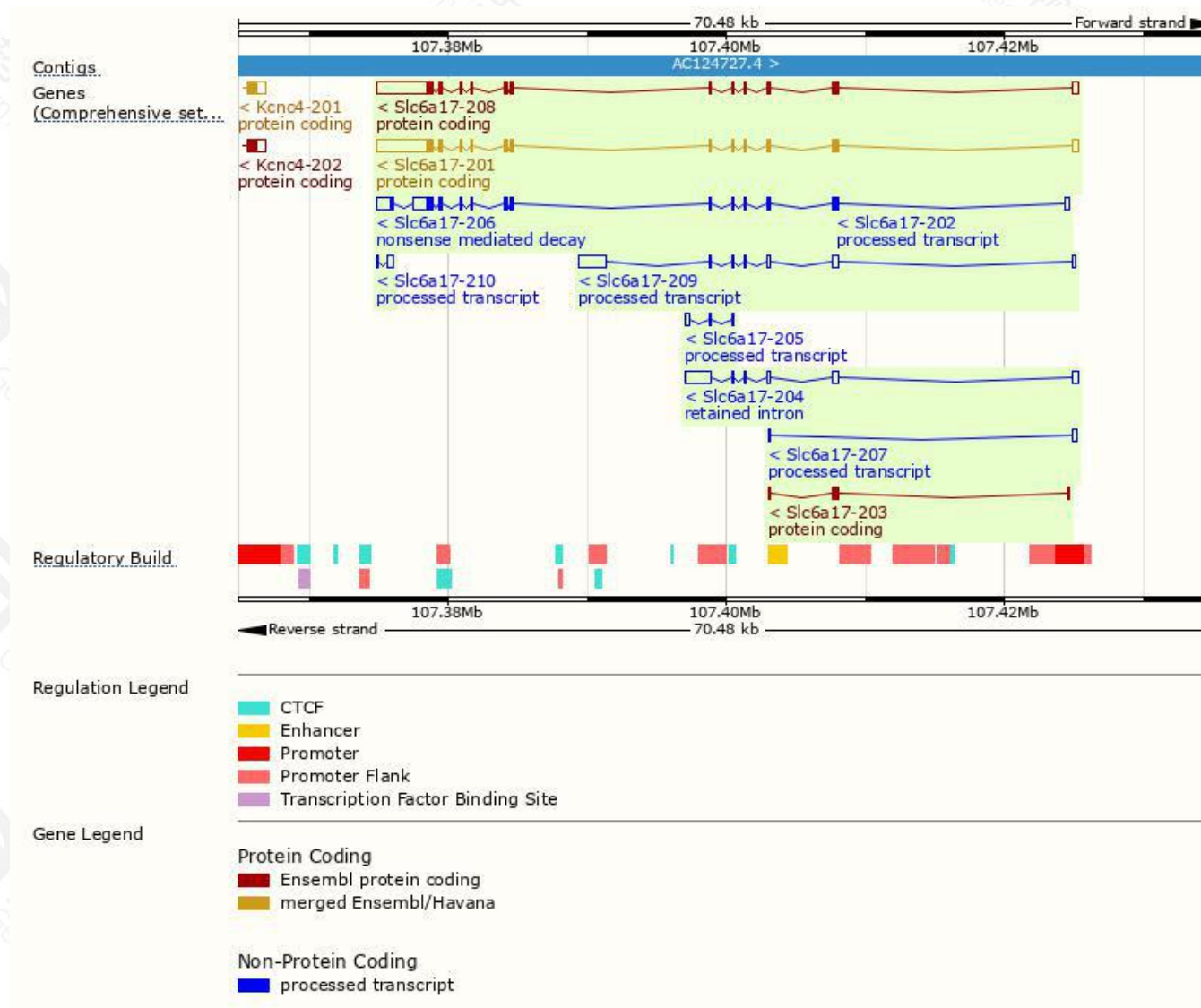
The gene has 10 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc6a17-208	ENSMUST000000169449.8	6322	727aa	Protein coding	CCDS79998		TSL:1 , GENCODE basic , APPRIS ALT1 ,
Slc6a17-201	ENSMUST00000029499.15	6308	724aa	Protein coding	CCDS38591		TSL:1 , GENCODE basic , APPRIS P3 ,
Slc6a17-203	ENSMUST000000166892.2	513	116aa	Protein coding	-		CDS 3' incomplete , TSL:2 ,
Slc6a17-206	ENSMUST000000168211.2	4174	686aa	Nonsense mediated decay	-		CDS 5' incomplete , TSL:1 ,
Slc6a17-209	ENSMUST000000170429.8	3076	No protein	Processed transcript	-		TSL:1 ,
Slc6a17-210	ENSMUST000000171029.2	496	No protein	Processed transcript	-		TSL:3 ,
Slc6a17-205	ENSMUST000000167975.2	489	No protein	Processed transcript	-		TSL:3 ,
Slc6a17-207	ENSMUST000000169413.2	449	No protein	Processed transcript	-		TSL:3 ,
Slc6a17-202	ENSMUST000000166736.2	391	No protein	Processed transcript	-		TSL:3 ,
Slc6a17-204	ENSMUST000000167898.2	3011	No protein	Retained intron	-		TSL:2 ,

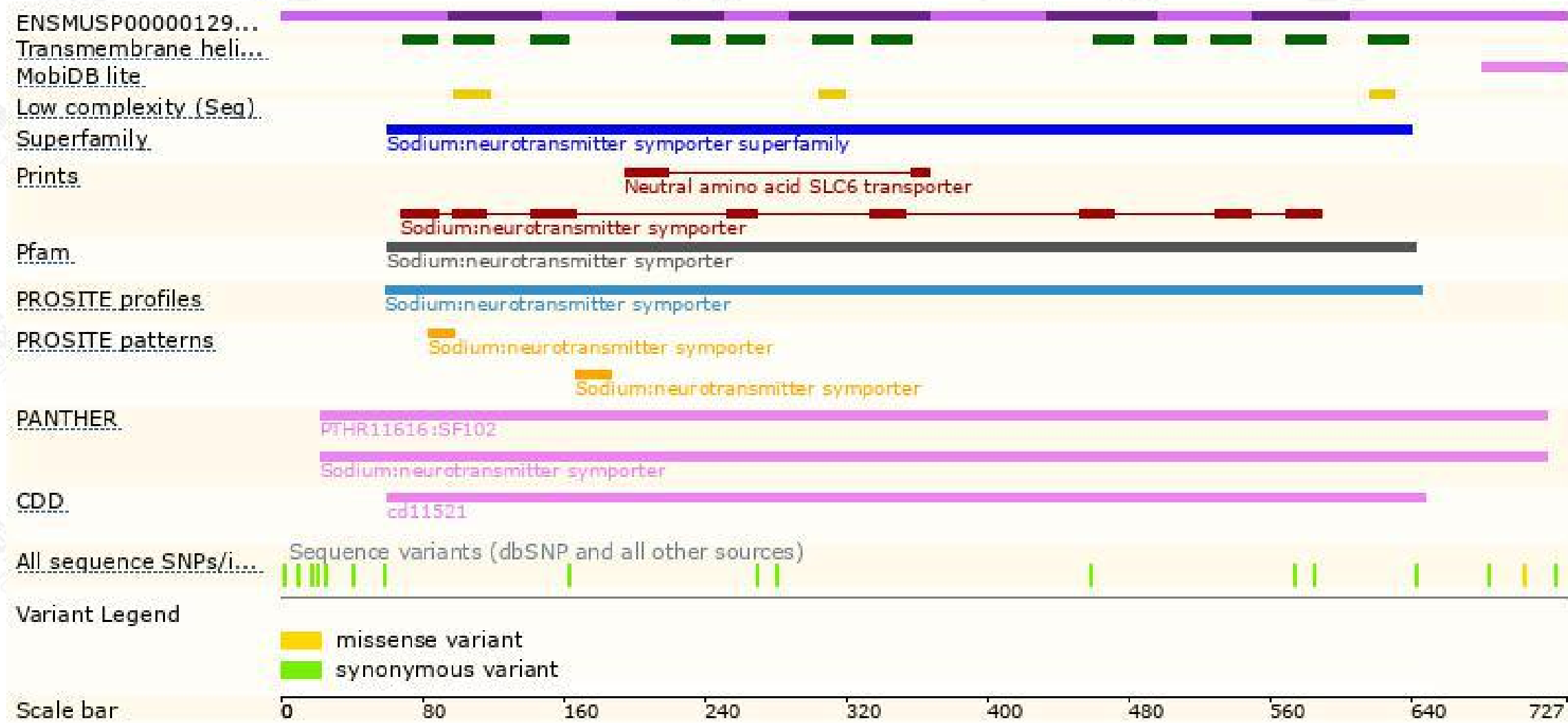
The strategy is based on the design of *Slc6a17-208* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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