Slc6a7 Cas9-KO Strategy

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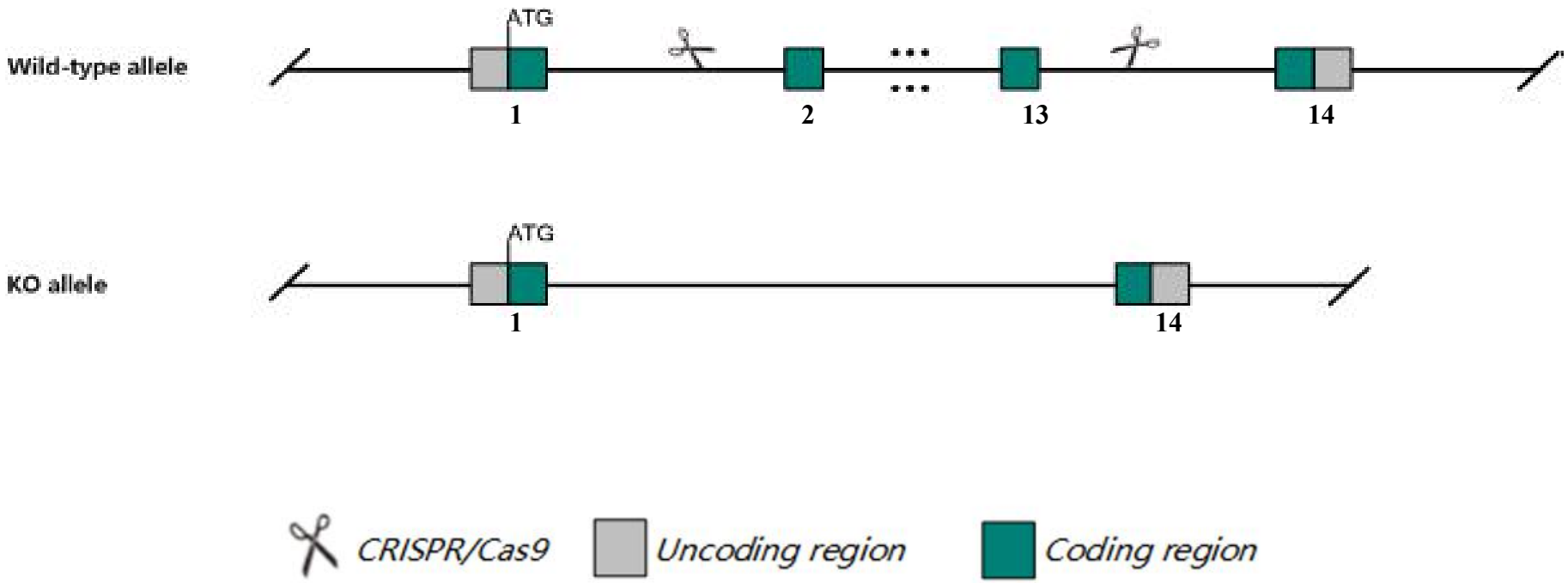
Project Overview

Project Name	***Slc6a7***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc6a7* gene. The schematic diagram is as follows:



Technical routes

The *Slc6a7* gene has 2 transcripts. According to the structure of *Slc6a7* gene, exon2-exon13 of *Slc6a7-201* (ENSMUST00000025520.9) transcript is recommended as the knockout region.The region contains most of the coding sequence.Knock out the region will result in disruption of protein function.

In this project we use CRISPR/Cas9 technology to modify *Slc6a7* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

The *Slc6a7* gene is located on the Chr18. 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

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Slc6a7 solute carrier family 6 (neurotransmitter transporter, L-proline), member 7 [Mus musculus (house mouse)]

Gene ID: 240332, updated on 31-Jan-2019

Summary

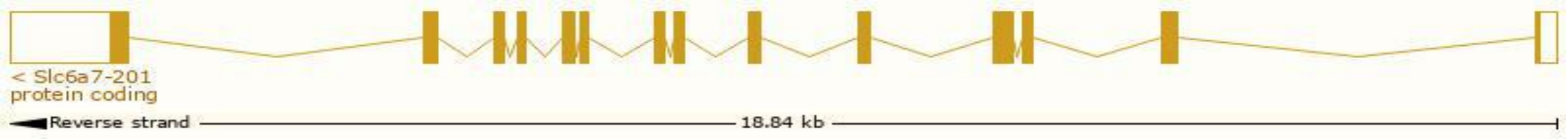
Official Symbol	Slc6a7 provided by MGI
Official Full Name	solute carrier family 6 (neurotransmitter transporter, L-proline), member 7 provided by MGI
Primary source	MGI:MGI:2147363
See related	Ensembl:ENSMUSG00000052026
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AW455934, PROT
Expression	Biased expression in frontal lobe adult (RPKM 8.4), cortex adult (RPKM 7.4) and 11 other tissues See more
Orthologs	human all

Transcript information Ensembl

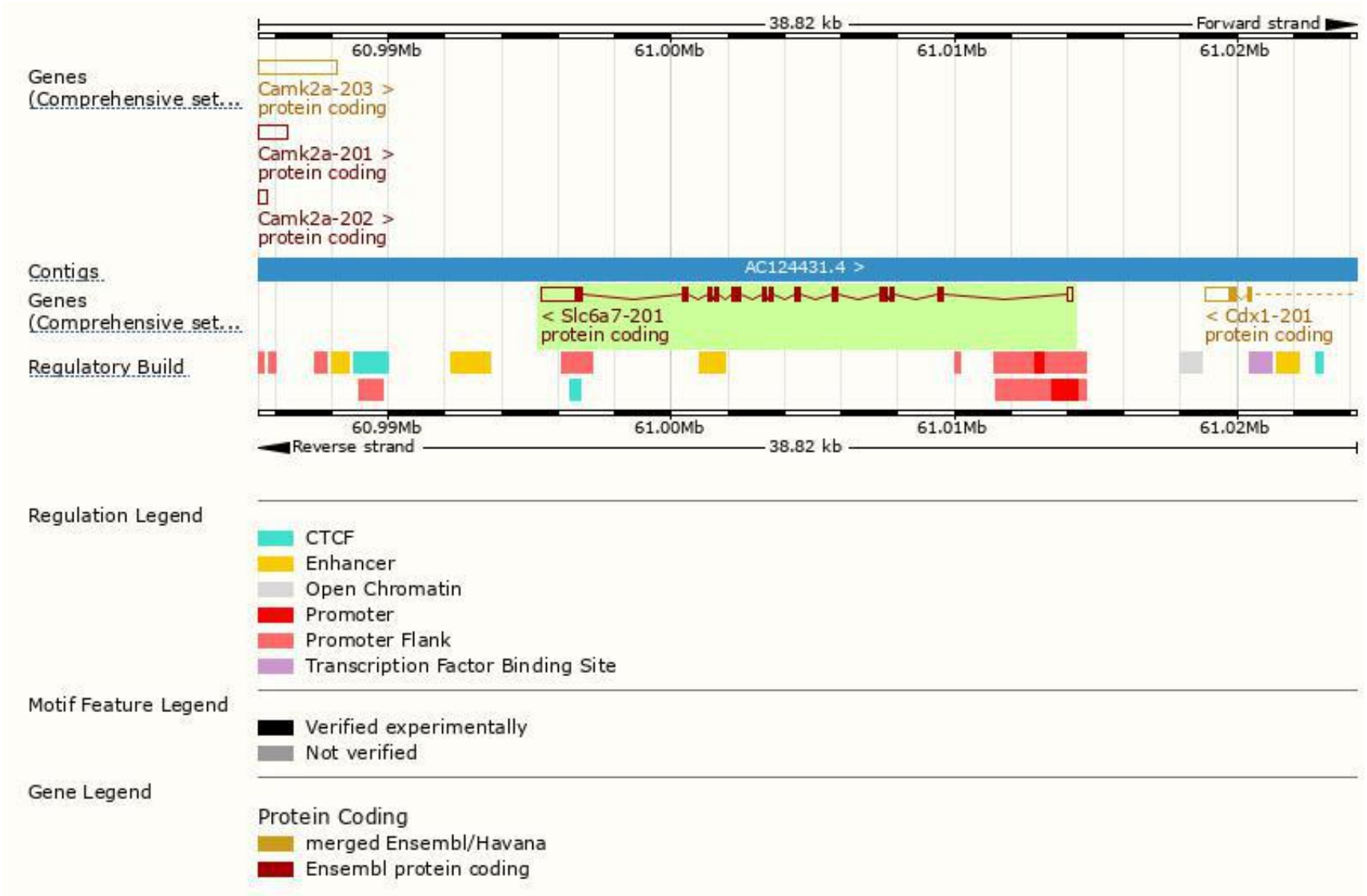
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc6a7-201	ENSMUST00000025520.9	3366	637aa	Protein coding	CCDS29278	Q6PGE7	TSL:1 GENCODE basic APPRIS P1
Slc6a7-202	ENSMUST00000236893.1	472	No protein	Processed transcript	-	-	

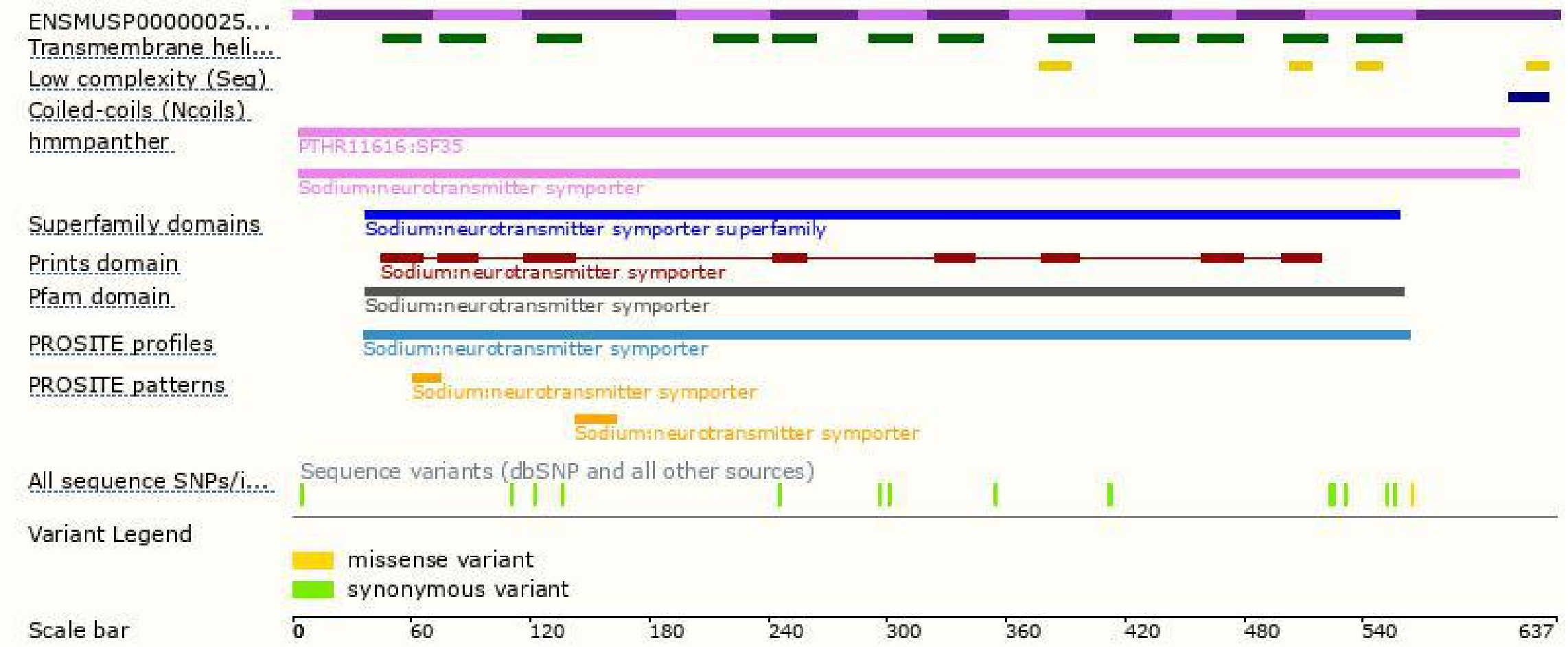
The strategy is based on the design of *Slc6a7-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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