

# *Slc38a11* Cas9-KO Strategy

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# Project Overview

**Project Name**

***Slc38a11***

**Project type**

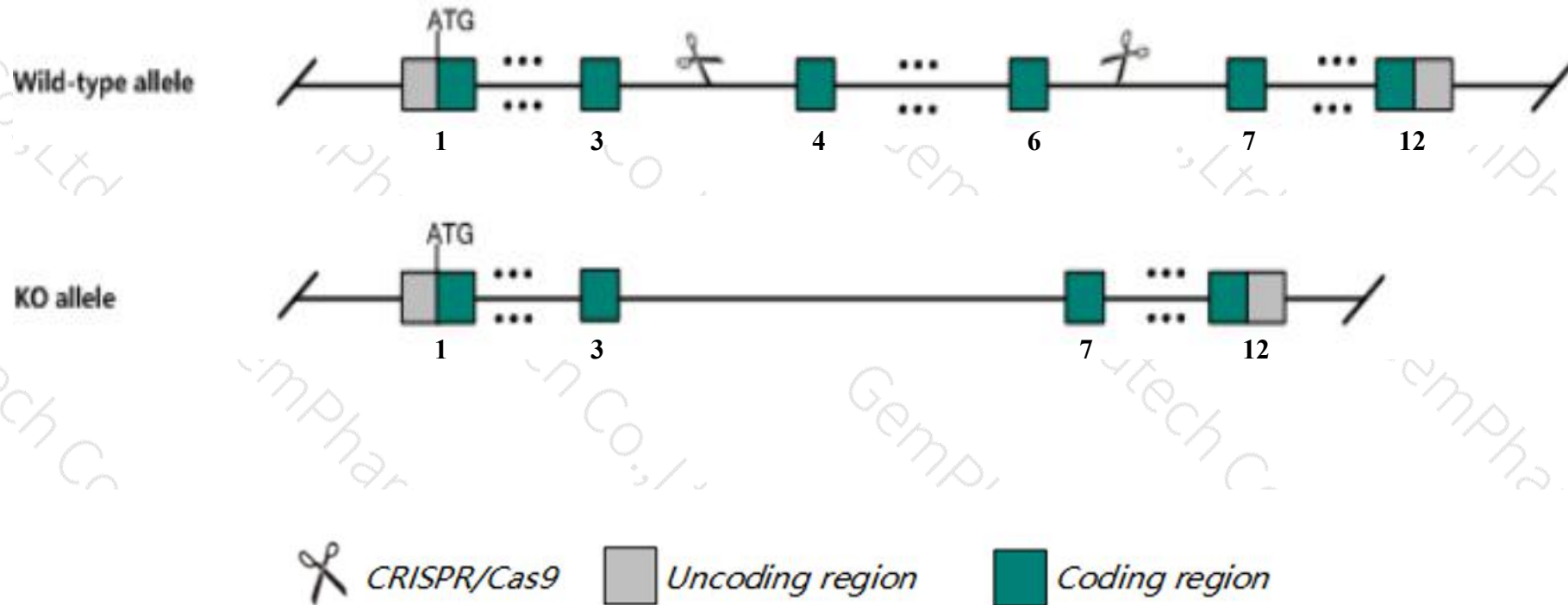
**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc38a11* gene. The schematic diagram is as follows:



- The *Slc38a11* gene has 8 transcripts. According to the structure of *Slc38a11* gene, exon4-exon6 of *Slc38a11-201* (ENSMUST00000112420.7) transcript is recommended as the knockout region. The region contains 308bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc38a11* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Slc38a11* gene is located on the Chr2. 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)

## Slc38a11 solute carrier family 38, member 11 [ *Mus musculus* (house mouse) ]

Gene ID: 320106, updated on 13-Mar-2020

### Summary

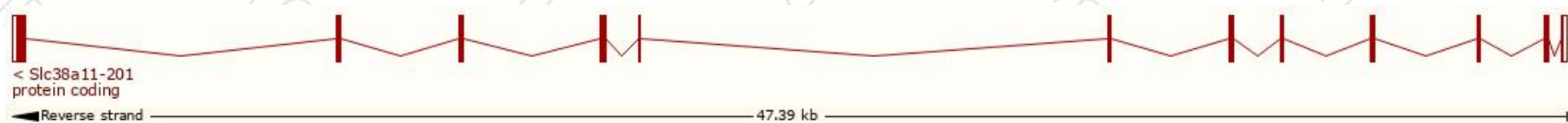
Official Symbol	Slc38a11 provided by <a href="#">MGI</a>
Official Full Name	solute carrier family 38, member 11 provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:2443383</a>
See related	<a href="#">Ensembl:ENSMUSG000000061171</a>
Gene type	protein coding
RefSeq status	VALIDATED
Organism	<a href="#">Mus musculus</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	9330158F14Rik
Expression	Broad expression in adrenal adult (RPKM 1.8), bladder adult (RPKM 0.8) and 17 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

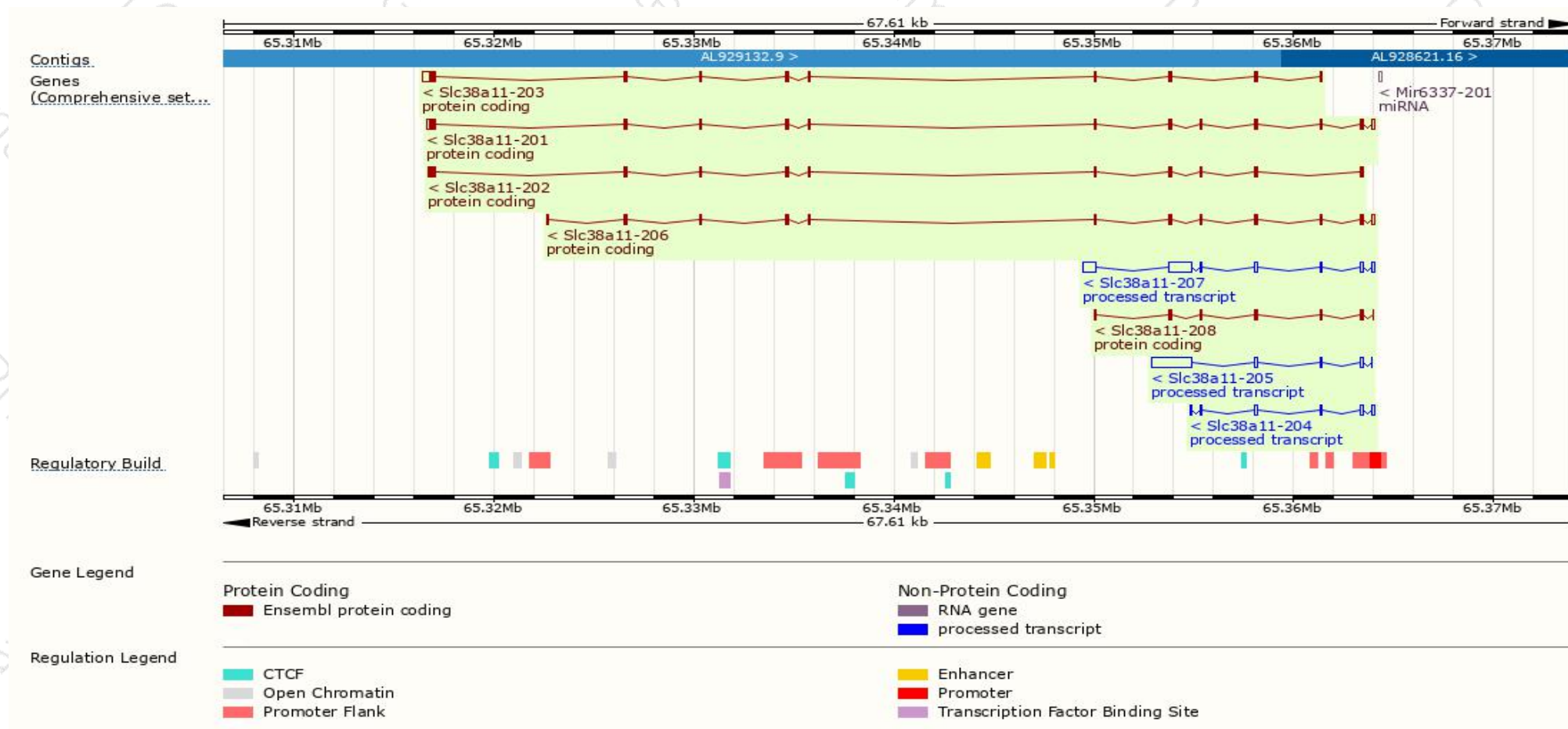
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc38a11-201	<a href="#">ENSMUST00000112420.7</a>	1606	<a href="#">453aa</a>	Protein coding	<a href="#">CCDS38129</a>	<a href="#">Q3USY0</a>	TSL:1 Gencode basic APPRIS P1
Slc38a11-203	<a href="#">ENSMUST00000127623.7</a>	1476	<a href="#">378aa</a>	Protein coding	-	<a href="#">F6WJL8</a>	CDS 5' incomplete TSL:5
Slc38a11-202	<a href="#">ENSMUST00000124918.7</a>	1299	<a href="#">414aa</a>	Protein coding	-	<a href="#">F6X0X3</a>	CDS 5' incomplete TSL:5
Slc38a11-206	<a href="#">ENSMUST00000152324.7</a>	1241	<a href="#">375aa</a>	Protein coding	-	<a href="#">A2ASI2</a>	CDS 3' incomplete TSL:1
Slc38a11-208	<a href="#">ENSMUST00000155962.2</a>	615	<a href="#">205aa</a>	Protein coding	-	<a href="#">F6WP73</a>	CDS 5' and 3' incomplete TSL:5
Slc38a11-205	<a href="#">ENSMUST00000145583.7</a>	2394	No protein	Processed transcript	-	-	TSL:1
Slc38a11-207	<a href="#">ENSMUST00000155422.7</a>	2339	No protein	Processed transcript	-	-	TSL:1
Slc38a11-204	<a href="#">ENSMUST00000141690.1</a>	658	No protein	Processed transcript	-	-	TSL:3

The strategy is based on the design of *Slc38a11-201* transcript, the transcription is shown below



# Genomic location distribution

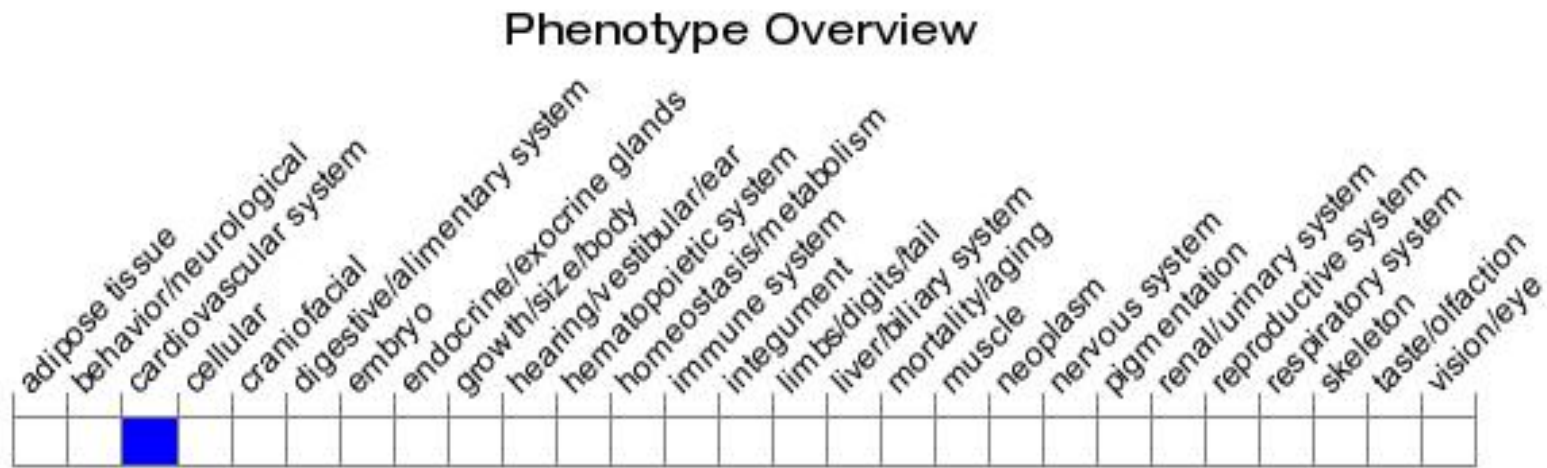




# Protein domain



# Mouse phenotype description(MGI)



*Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).*

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

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