

Ist1 Cas9-KO Strategy

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Project Overview

Project Name

Ist1

Project type

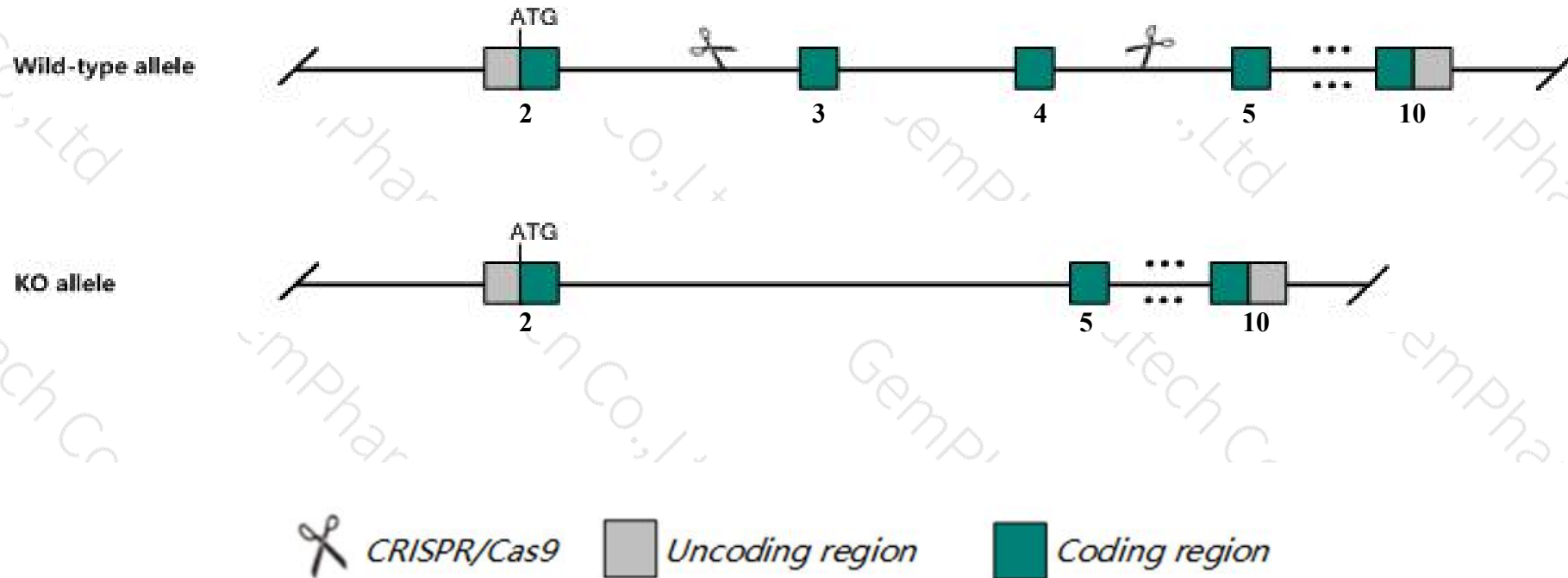
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ist1* gene. The schematic diagram is as follows:



- The *Ist1* gene has 4 transcripts. According to the structure of *Ist1* gene, exon3-exon4 of *Ist1-201* (ENSMUST00000034164.5) transcript is recommended as the knockout region. The region contains 269bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ist1* gene. The brief process is as follows: CRISPR/Cas9 system w

- Transcript 202 may not be affected.
- The *Ist1* gene is located on the Chr8. 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)

Ist1 increased sodium tolerance 1 homolog (yeast) [*Mus musculus* (house mouse)]

Gene ID: 71955, updated on 13-Aug-2019

Summary

Official Symbol	Ist1 provided by MGI
Official Full Name	increased sodium tolerance 1 homolog (yeast) provided by MGI
Primary source	MGI:MGI:1919205
See related	Ensembl:ENSMUSG000000031729
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	AW536298; mKIAA0174; 2400003C14Rik
Expression	Ubiquitous expression in CNS E14 (RPKM 40.7), CNS E18 (RPKM 40.3) and 28 other tissues See more
Orthologs	human all

Genomic context

Location: 8; 8 D3

Exon count: 12

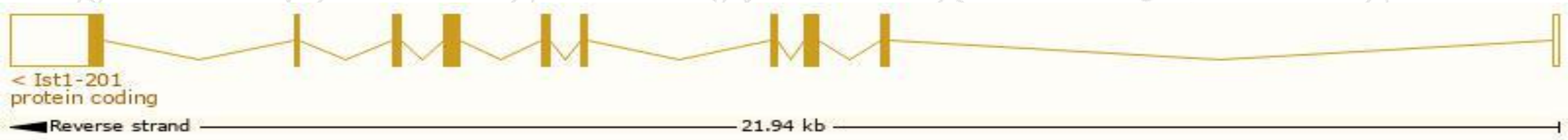
See Ist1 in [Genome Data Viewer](#)

Transcript information (Ensembl)

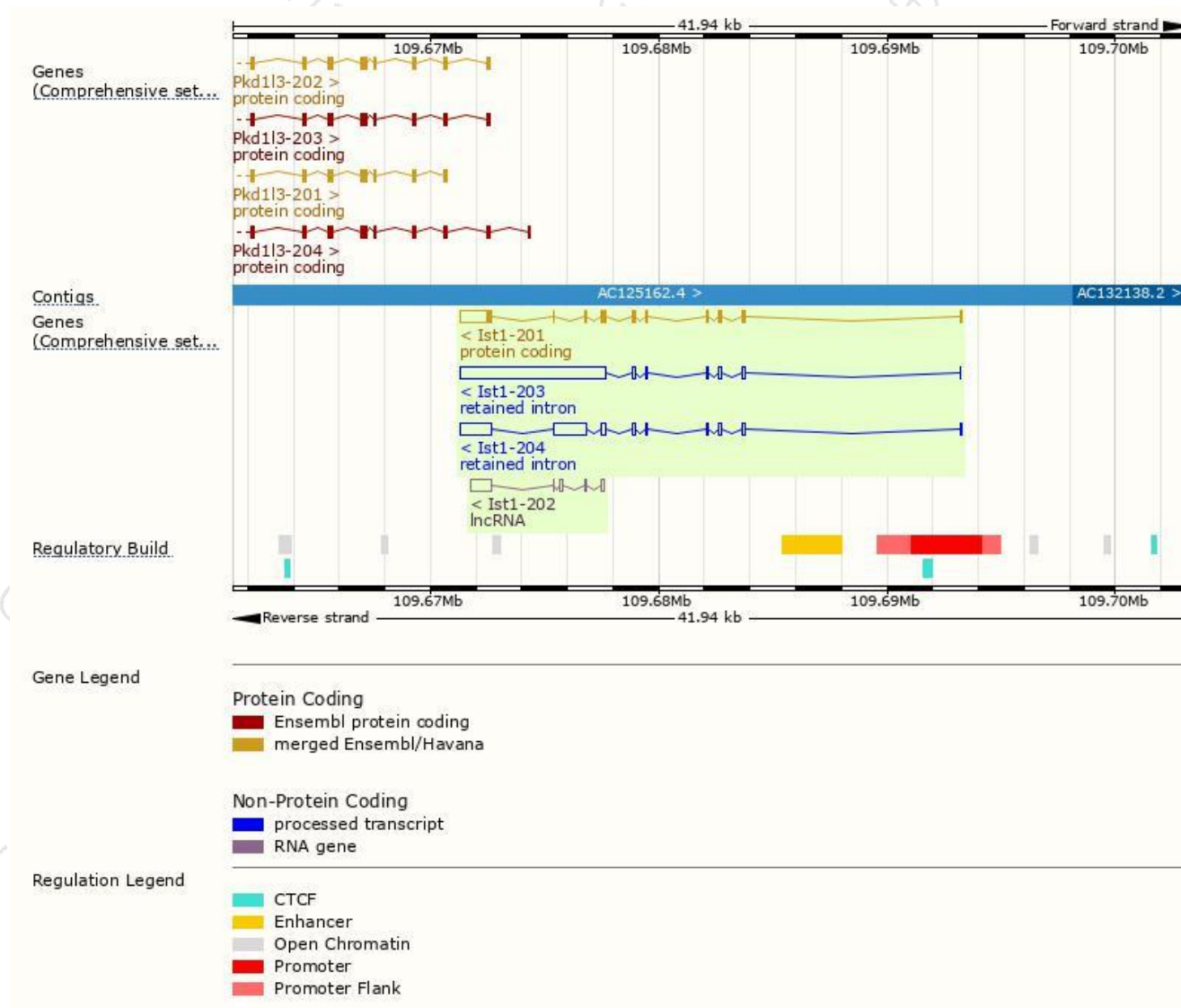
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ist1-201	ENSMUST00000034164.5	2304	362aa	Protein coding	CCDS22655	Q9CX00	TSL:1 GENCODE basic APPRIS P1
Ist1-203	ENSMUST00000212562.1	6990	No protein	Retained intron	-	-	TSL:1
Ist1-204	ENSMUST00000212973.1	3633	No protein	Retained intron	-	-	TSL:2
Ist1-202	ENSMUST00000212170.1	1280	No protein	lncRNA	-	-	TSL:5

The strategy is based on the design of *Ist1-201* 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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