

Slc10a6 Cas9-CKO Strategy

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Reviewer:

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Design Date:

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Project Overview

Project Name

Slc10a6

Project type

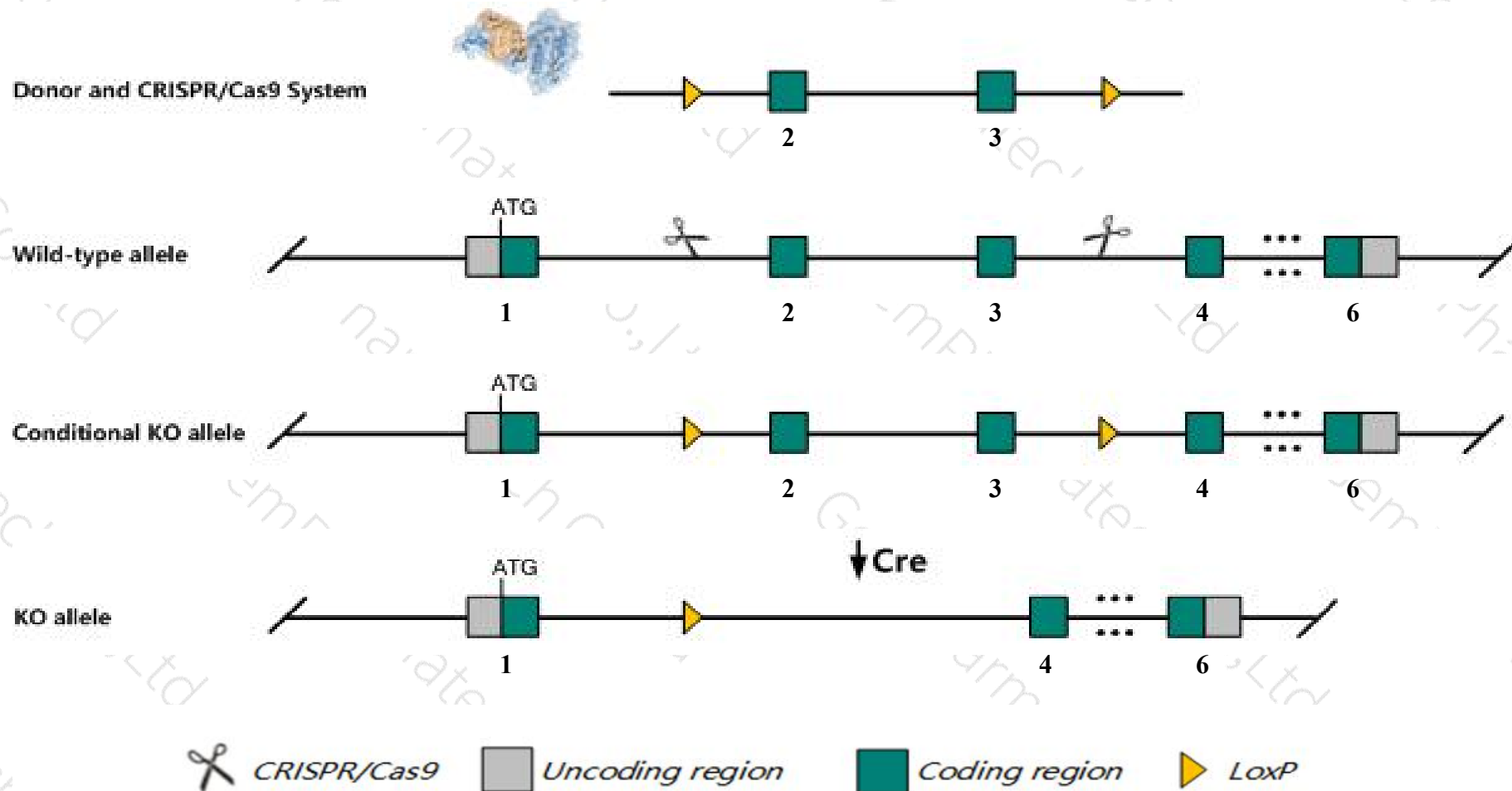
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc10a6* gene. The schematic diagram is as follows:



- The *Slc10a6* gene has 1 transcript. According to the structure of *Slc10a6* gene, exon2-exon3 of *Slc10a6-201*(ENSMUST00000031263.1) transcript is recommended as the knockout region. The region contains 208bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slc10a6* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- The *Slc10a6* gene is located on the Chr5. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Slc10a6 solute carrier family 10 (sodium/bile acid cotransporter family), member 6 [*Mus musculus* (house mouse)]

Gene ID: 75750, updated on 26-Jun-2020

Summary

Official Symbol Slc10a6 provided by [MGI](#)

Official Full Name solute carrier family 10 (sodium/bile acid cotransporter family), member 6 provided by [MGI](#)

Primary source [MGI:MGI:1923000](#)

See related [Ensembl:ENSMUSG00000029321](#)

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 Soat; C78479; 8430417G17Rik

Expression Biased expression in lung adult (RPKM 9.0), subcutaneous fat pad adult (RPKM 3.7) and 7 other tissues [See more](#)

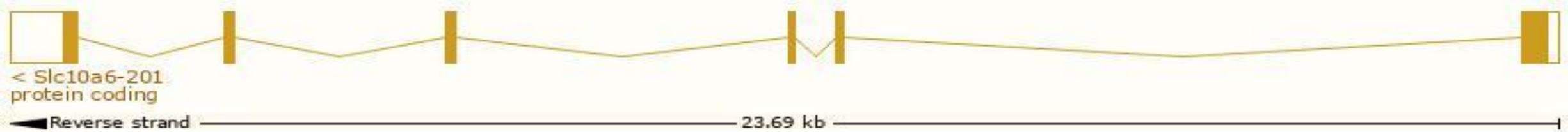
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

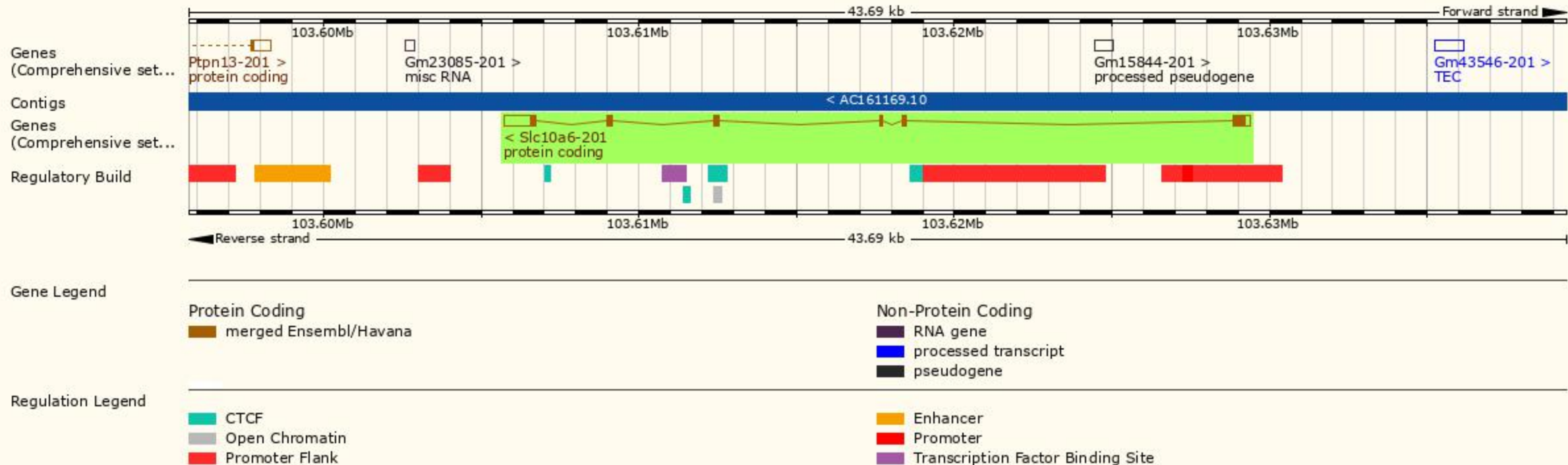
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags		
Slc10a6-201	ENSMUST00000031263.1	2124	373aa	Protein coding	CCDS19477	Q9CXB2	TSL:1	GENCODE basic	APPRIS P1

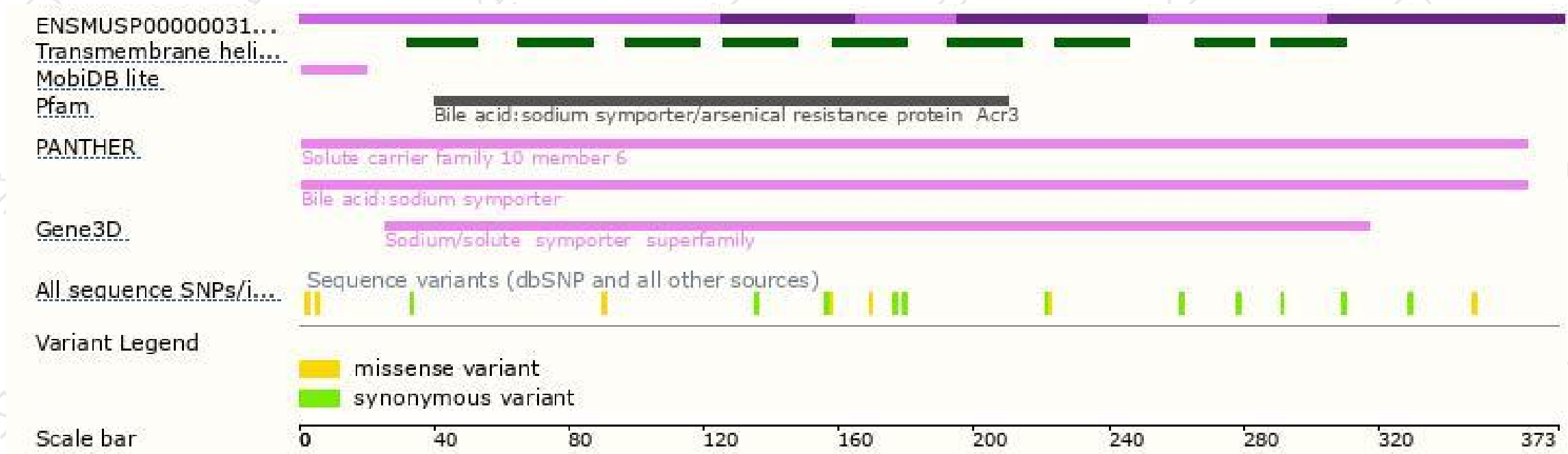
The strategy is based on the design of *Slc10a6-201* transcript, the transcription is shown below:



Genomic location distribution



Protein domain



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

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