

Dgat2l6 Cas9-KO Strategy

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Project Overview

Project Name

Dgat2l6

Project type

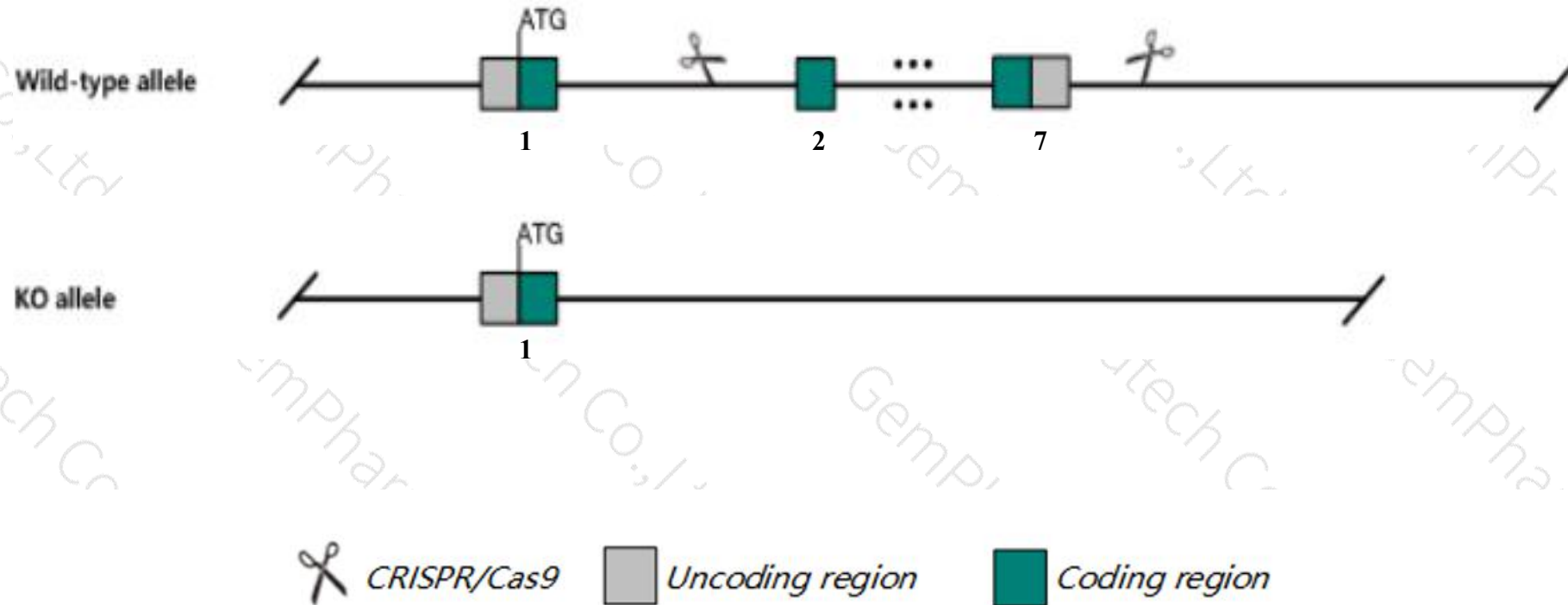
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dgat2l6* gene. The schematic diagram is as follows:



- The *Dgat2l6* gene has 2 transcripts. According to the structure of *Dgat2l6* gene, exon2-exon7 of *Dgat2l6-201* (ENSMUST00000037541.8) transcript is recommended as the knockout region. The region contains 929bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dgat2l6* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Dgat2l6* gene is located on the ChrX. 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)

Dgat2l6 diacylglycerol O-acyltransferase 2-like 6 [Mus musculus (house mouse)]

Gene ID: 668257, updated on 13-Mar-2020

Summary



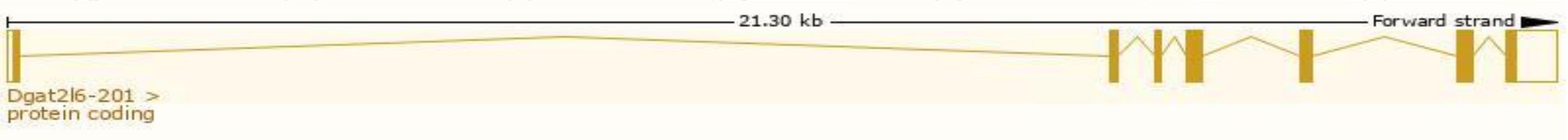
Official Symbol	Dgat2l6 provided by MGI
Official Full Name	diacylglycerol O-acyltransferase 2-like 6 provided by MGI
Primary source	MGI:MGI:3045268
See related	Ensembl:ENSMUSG00000067597
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	9930021F22Rik
Expression	Low expression observed in reference dataset See more
Orthologs	human all

Transcript information (Ensembl)

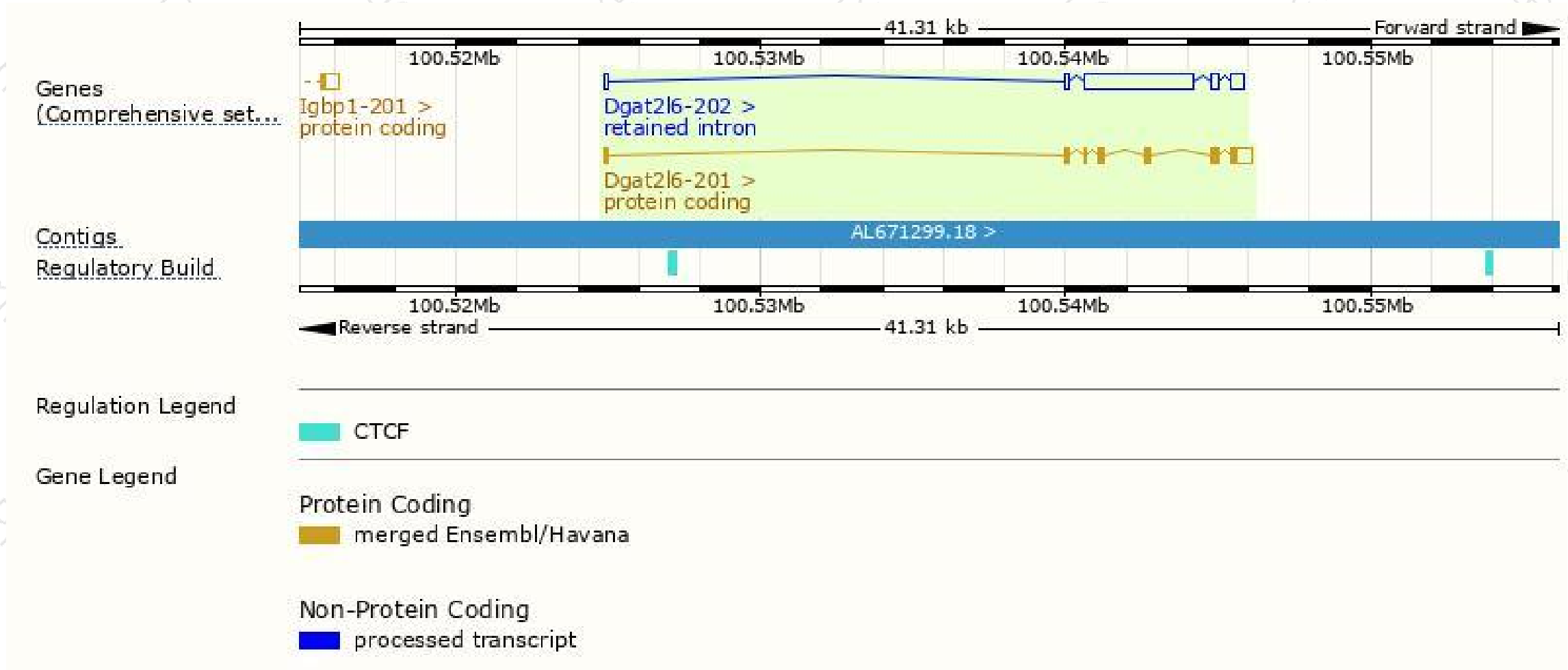
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dgat2l6-201	ENSMUST00000037541.8	1640	337aa	Protein coding	CCDS53147	A2ADU8	TSL:5 GENCODE basic APPRIS P1
Dgat2l6-202	ENSMUST00000140551.1	4488	No protein	Retained intron	-	-	TSL:2

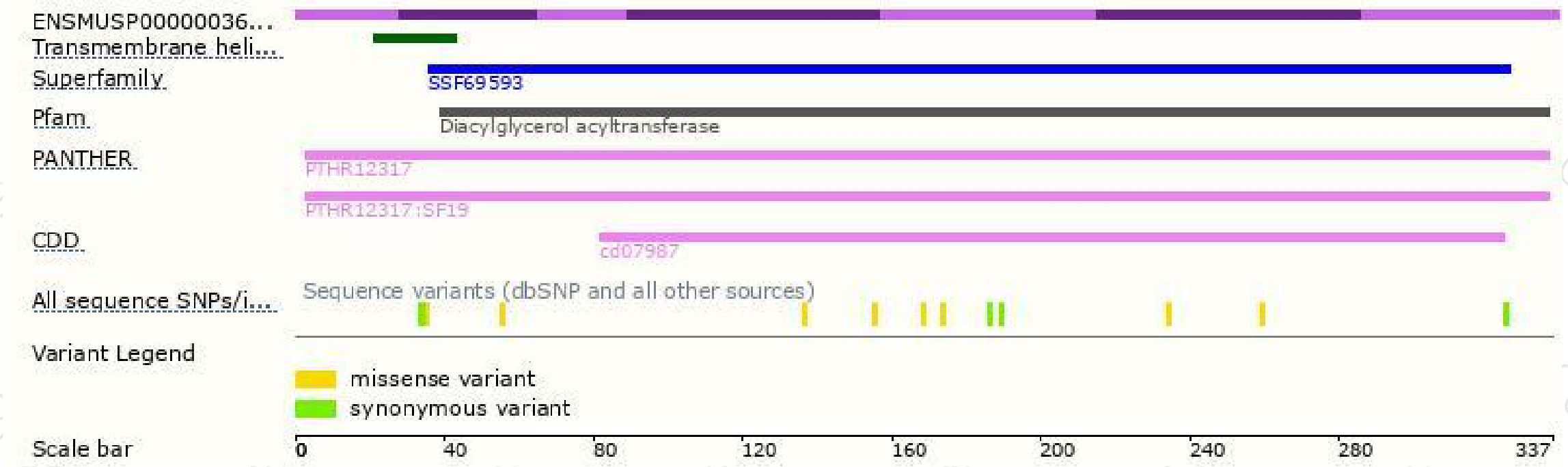
The strategy is based on the design of *Dgat2l6-201* transcript,The transcription is shown below



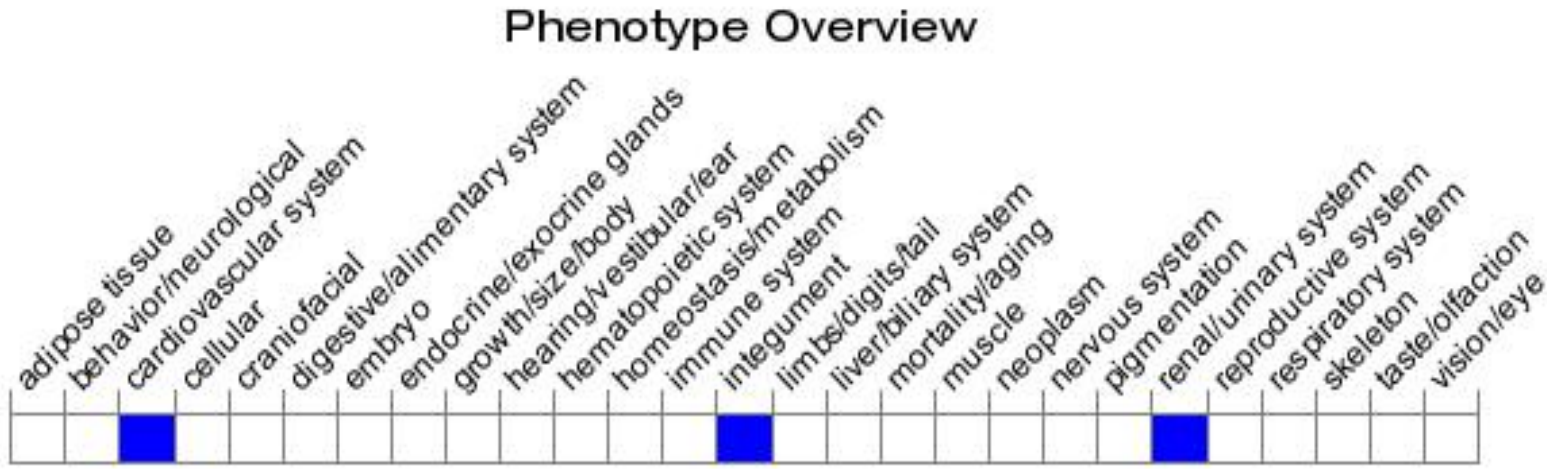
Genomic location distribution



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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