

Cd300lg Cas9-KO Strategy

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Project Overview

Project Name

Cd300lg

Project type

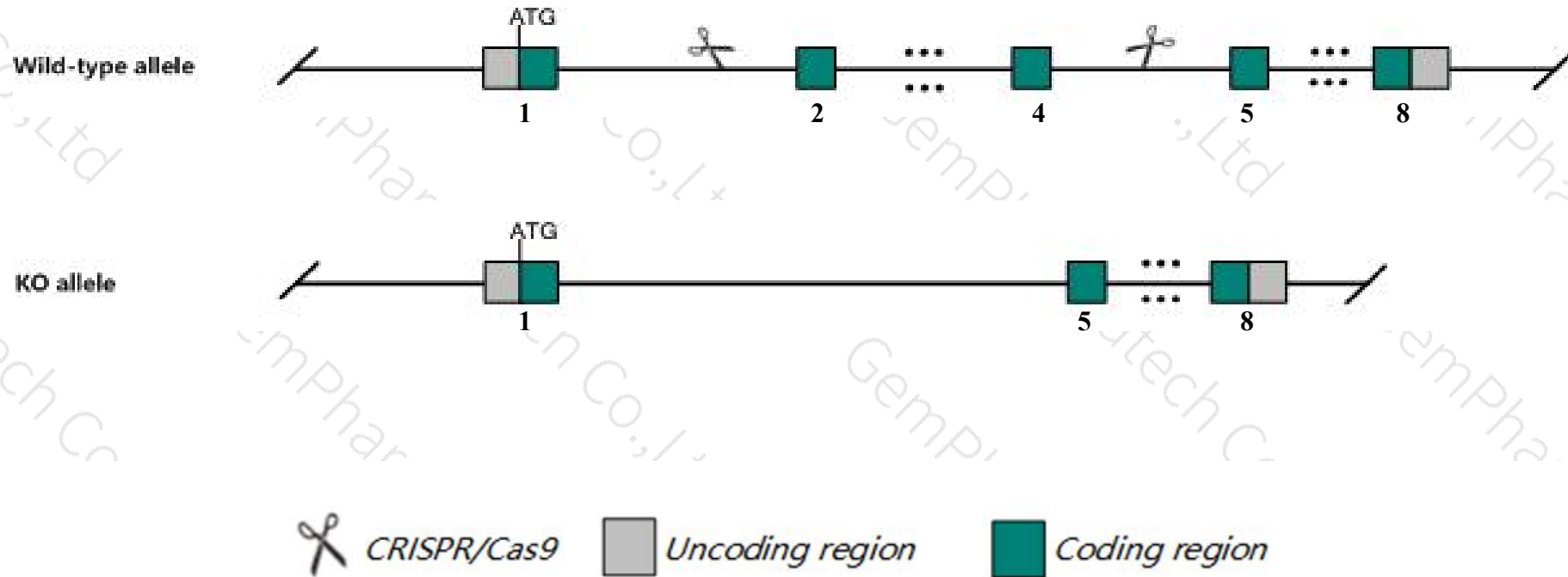
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cd300lg* gene. The schematic diagram is as follows:



- The *Cd300lg* gene has 4 transcripts. According to the structure of *Cd300lg* gene, exon2-exon4 of *Cd300lg-203* (ENSMUST00000107164.2) transcript is recommended as the knockout region. The region contains 799bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cd300lg* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Phenotypic analysis of mice homozygous for a targeted allele indicates that this mutation shows no notable phenotype in any parameter tested.
- The *Cd300lg* gene is located on the Chr11. 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)

Cd300lg CD300 molecule like family member G [Mus musculus (house mouse)]

Gene ID: 52685, updated on 31-Jan-2019

Summary



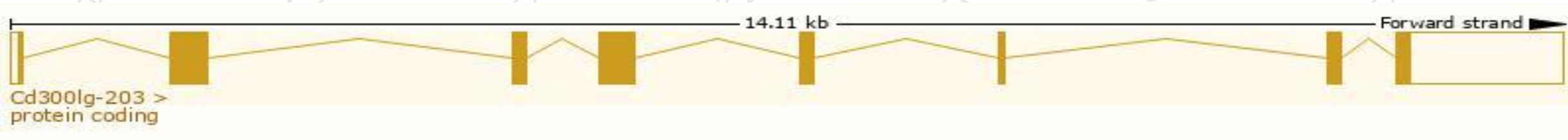
Official Symbol	Cd300lg provided by MGI
Official Full Name	CD300 molecule like family member G provided by MGI
Primary source	MGI:MGI:1289168
See related	Ensembl:ENSMUSG00000017309
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2310016B05Rik, Clm9, D11Erd736e
Expression	Biased expression in subcutaneous fat pad adult (RPKM 49.1), mammary gland adult (RPKM 34.6) and 12 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

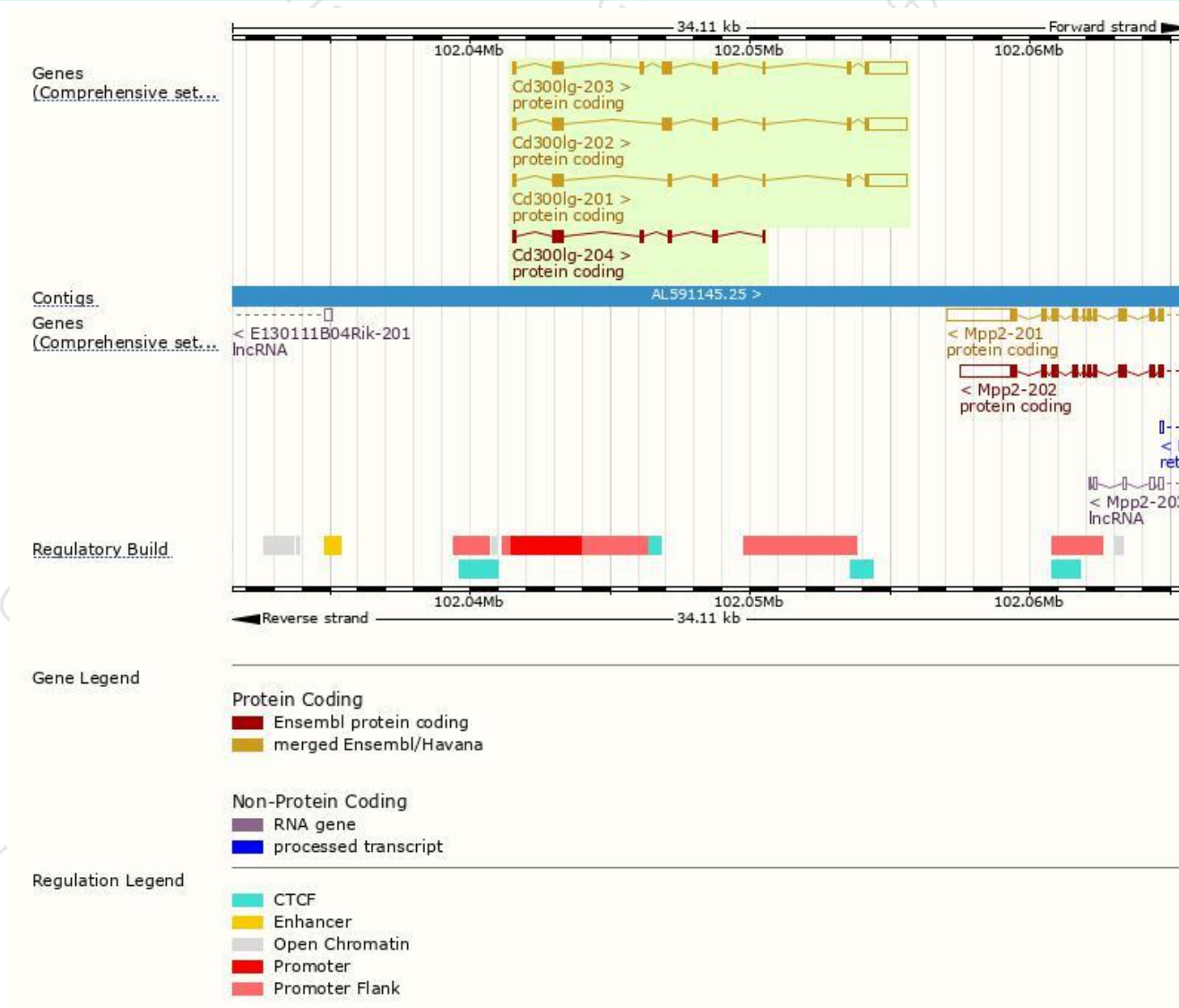
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cd300lg-203	ENSMUST00000107164.2	2737	415aa	Protein coding	CCDS48939	Q1ERP8	TSL:1 GENCODE basic APPRIS ALT2
Cd300lg-202	ENSMUST00000107163.8	2605	371aa	Protein coding	CCDS48940	Q1ERP8	TSL:1 GENCODE basic APPRIS ALT2
Cd300lg-201	ENSMUST00000017453.11	2353	287aa	Protein coding	CCDS25484	Q1ERP8	TSL:1 GENCODE basic APPRIS P3
Cd300lg-204	ENSMUST00000123895.7	837	251aa	Protein coding	-	X1WI18	CDS 3' incomplete TSL:5

The strategy is based on the design of *Cd300lg-203* transcript,The transcription is shown below



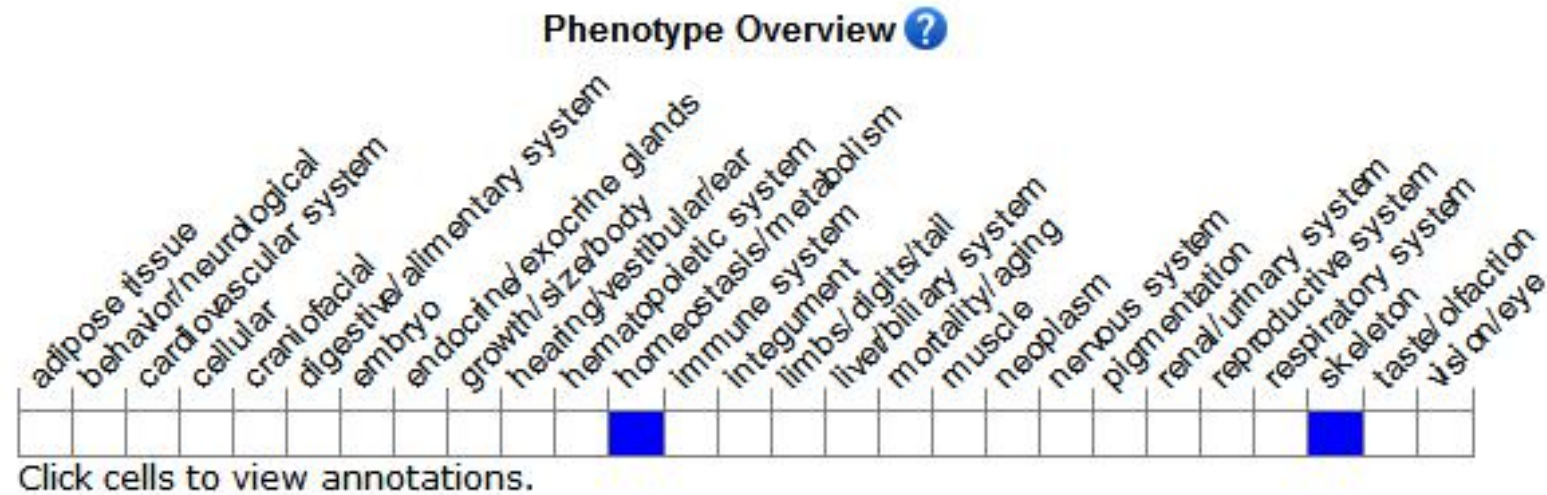
Genomic location distribution



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/>).

According to the existing MGI data, Phenotypic analysis of mice homozygous for a targeted allele indicates that this mutation shows no notable phenotype in any parameter tested.

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

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