

# ***Cd300ld Cas9-KO Strategy***

**Designer:**

**Zengyang**

**Date:**

**2019-7-26**

# Project Overview



**Project Name**

***Cd300ld***

**Project type**

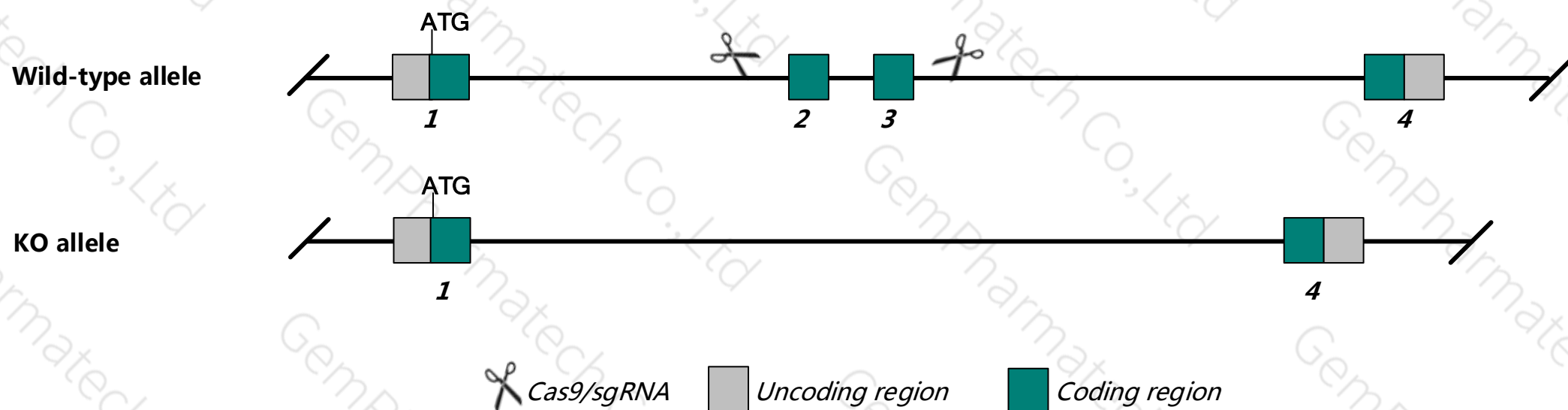
**Cas9-KO**

**Strain background**

**C57BL/6J**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cd300ld* gene. The schematic diagram is as follows:



# Technical routes

- The *Cd300ld* gene has 1 transcript. According to the structure of *Cd300ld* gene, exon2-3 of *Cd300ld-201* (ENSMUST00000045075.2) transcript is recommended as the knockout region. The region contains 469bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cd300ld* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6J 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/6J mice.

- The *Cd300ld* 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 )

## Cd300ld CD300 molecule like family member d [ *Mus musculus* (house mouse) ]

Gene ID: 217305, updated on 31-Jan-2019

### Summary

Official Symbol	Cd300ld provided by <a href="#">MGI</a>
Official Full Name	CD300 molecule like family member d provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:2442358</a>
See related	<a href="#">Ensembl:ENSMUSG00000034641</a>
Gene type	protein coding
RefSeq status	PROVISIONAL
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	CLM5; LMIR4; clm-5; MAIR-IV; Cd300ld1; 4732429D16Rik
Expression	Broad expression in mammary gland adult (RPKM 2.7), spleen adult (RPKM 2.3) and 19 other tissues <a href="#">See more</a>



# Transcript information ( Ensembl )

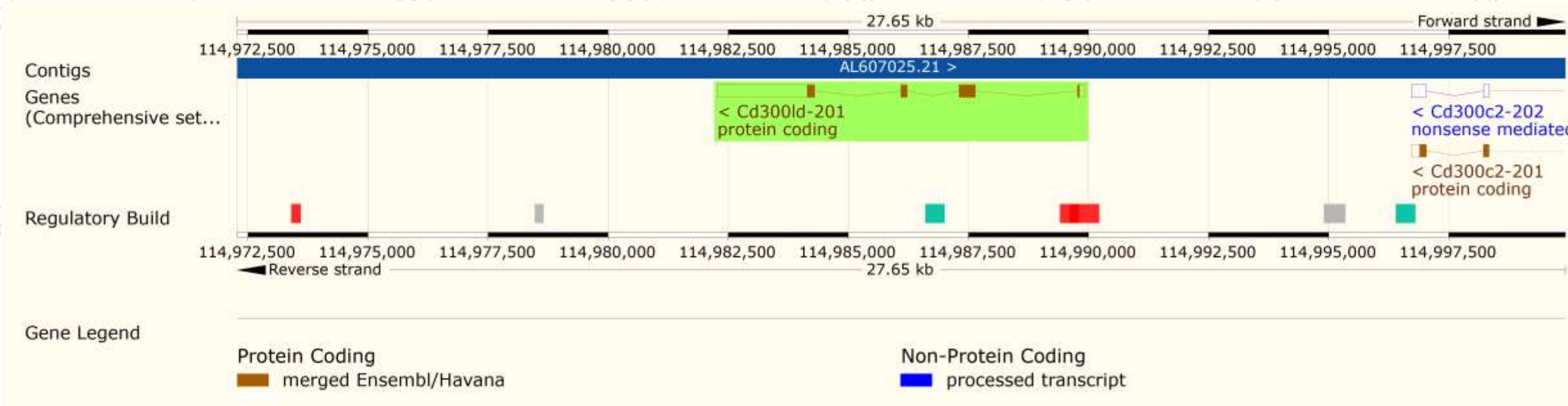
The gene has 1 transcript, and the transcript is shown below :

Show/hide columns (1 hidden)							Filter	
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags	
Cd300ld-201	<a href="#">ENSMUST00000045075.2</a>	2645	<a href="#">221aa</a>	Protein coding	<a href="#">CCDS25615</a>	<a href="#">Q8VCH2</a>	TSL:1	GENCODE basic APPRIS P1

The strategy is based on the design of *Cd300ld-201* transcript,The transcription is shown below



# Genomic location ( Ensembl )





# Protein domain ( Ensembl )



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

Tel: 025-5864 1534



集萃药康生物科技  
GemPharmatech Co.,Ltd

