

Ly6g5c Cas9-KO Strategy

Designer: Daohua Xu

Reviewer: Xueting Zhang

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Project Overview

Project Name

Ly6g5c

Project type

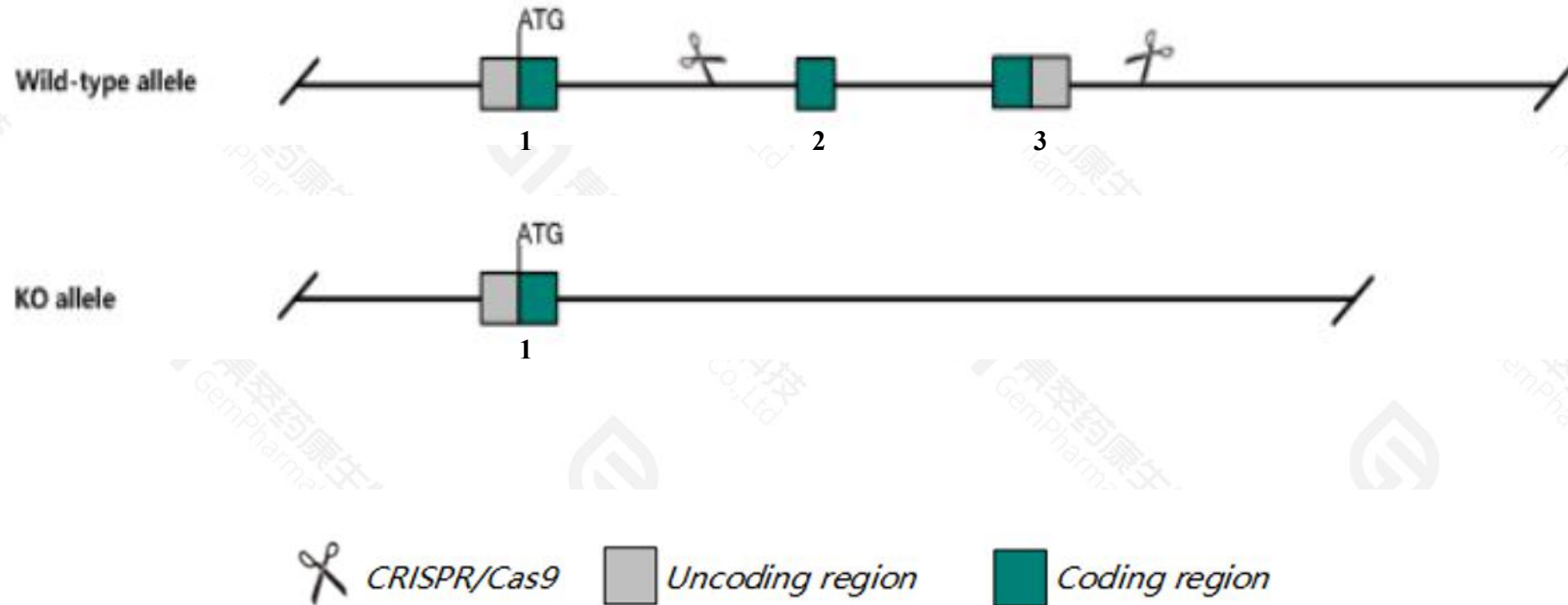
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ly6g5c* gene. The schematic diagram is as follows:



- The *Ly6g5c* gene has 1 transcript. According to the structure of *Ly6g5c* gene, exon2-exon3 of *Ly6g5c-201*(ENSMUST00000037849.2) transcript is recommended as the knockout region. The region contains 329bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ly6g5c* gene. The brief process is as follows: CRISPR/Cas9 system 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 *Ly6g5c* gene is located on the Chr17. 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.

Ly6g5c lymphocyte antigen 6 complex, locus G5C [Mus musculus (house mouse)]

Gene ID: 114652, updated on 13-Mar-2020

Summary



Official Symbol Ly6g5c provided by [MGI](#)

Official Full Name lymphocyte antigen 6 complex, locus G5C provided by [MGI](#)

Primary source [MGI:MGI:2148974](#)

See related [Ensembl:ENSMUSG00000034482](#)

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 G5c, NG33

Expression Restricted expression toward genital fat pad adult (RPKM 932.2)[See more](#)

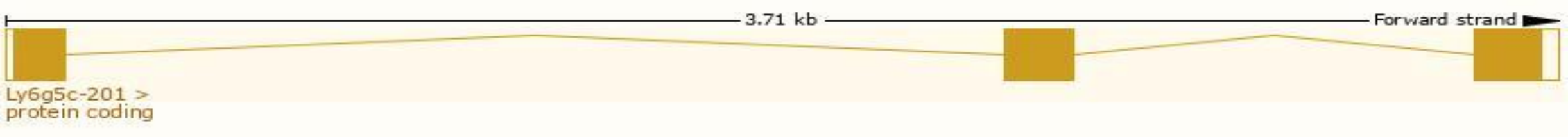
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

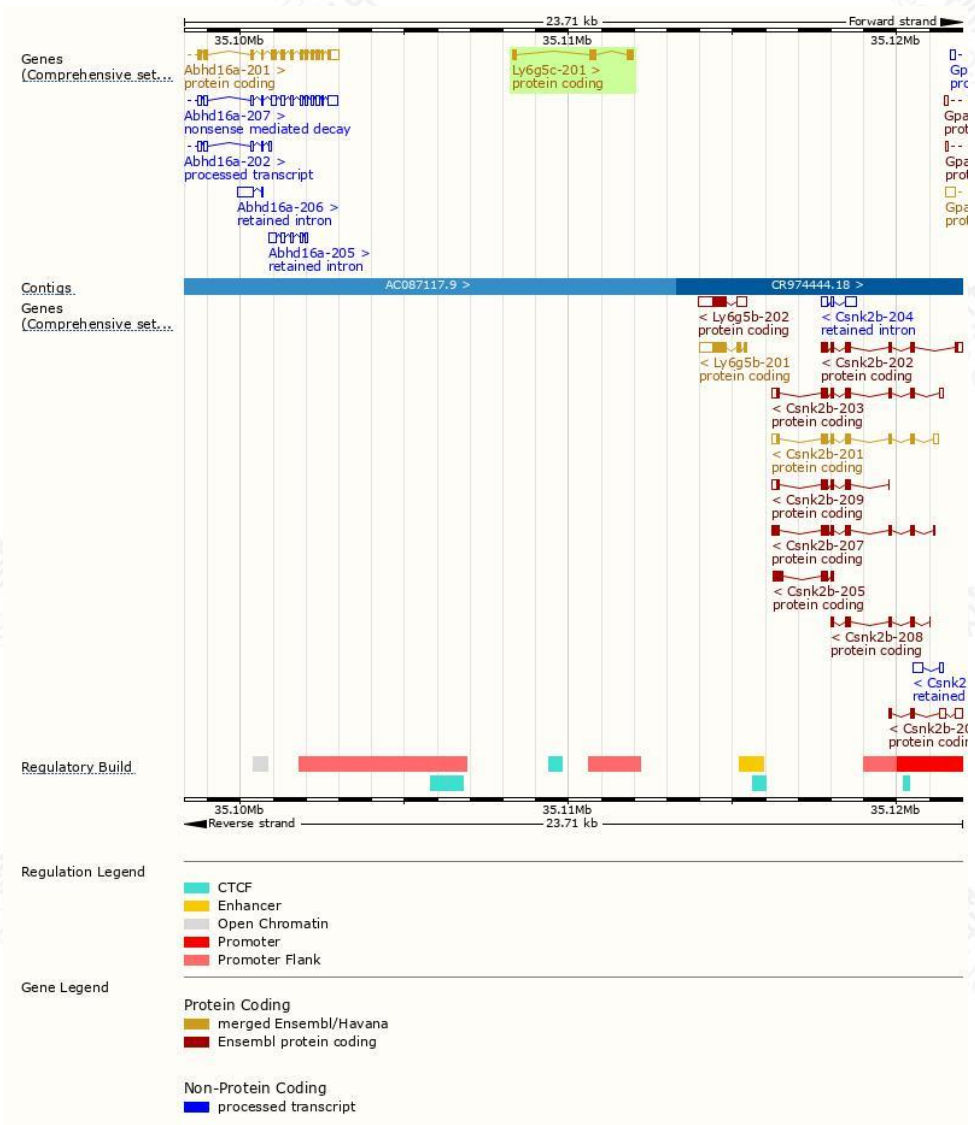
The gene has 1 transcript,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ly6g5c-201	ENSMUST00000037849.2	509	149aa	Protein coding	CCDS28682	Q8K1T5	TSL:1 GENCODE basic APPRIS P1

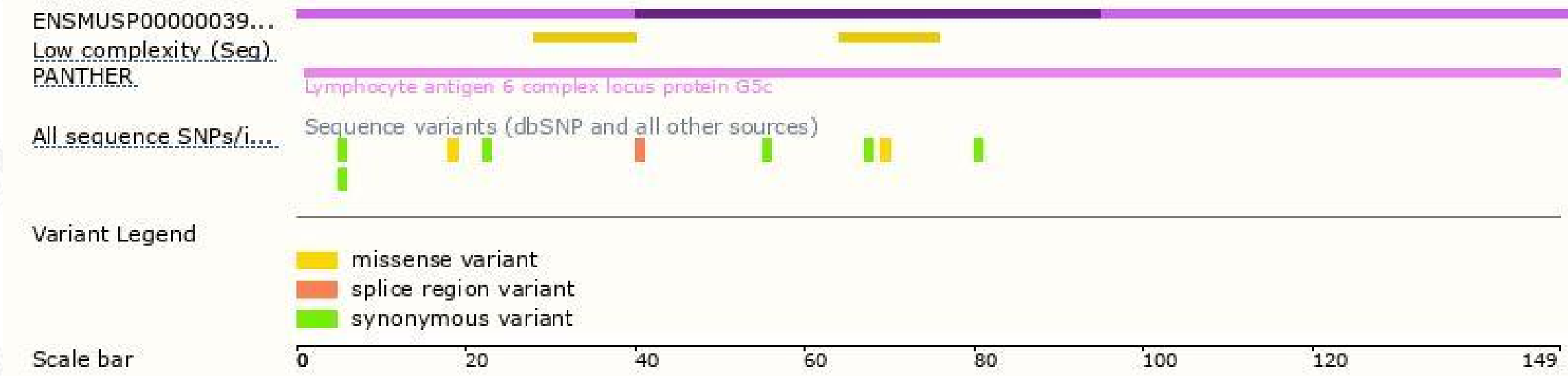
The strategy is based on the design of *Ly6g5c-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



If you have any questions, you are welcome to inquire.
Tel: 400-9660890

