

Cd84 Cas9-KO Strategy

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Project Overview

Project Name

Cd84

Project type

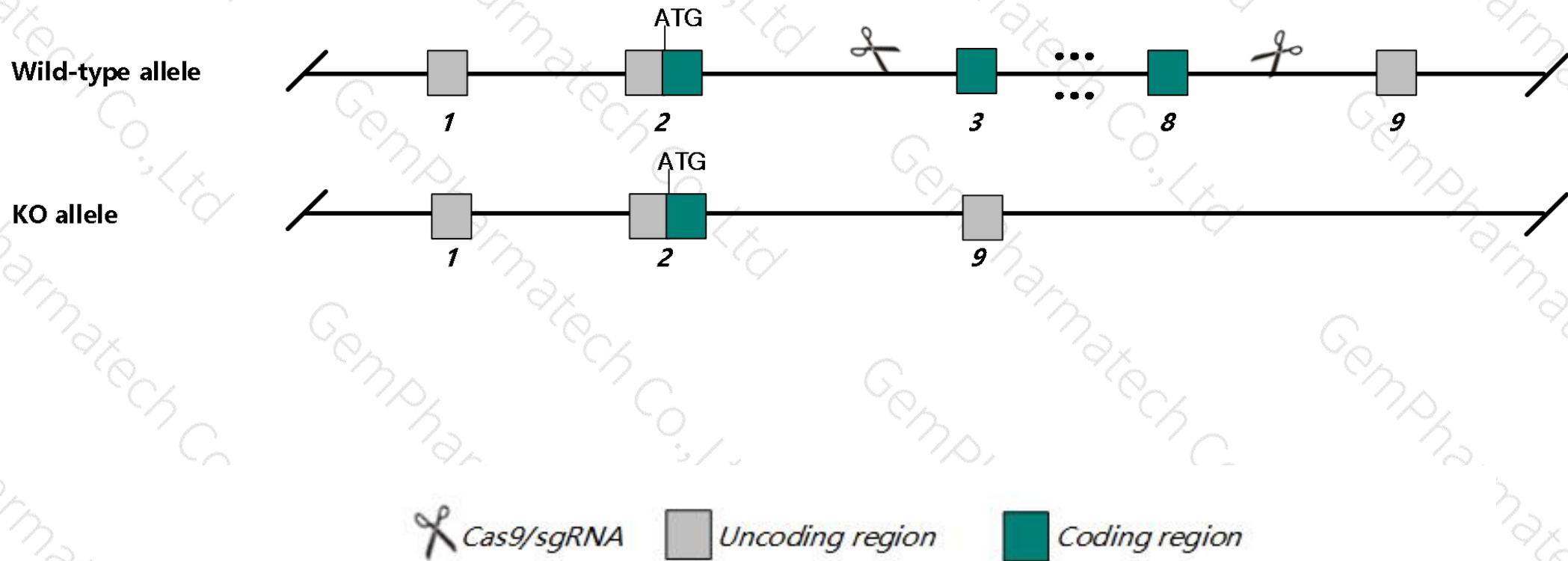
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cd84* gene. The schematic diagram is as follows:



- The *Cd84* gene has 5 transcripts. According to the structure of *Cd84* gene, exon3-exon8 of *Cd84-205* (ENSMUST00000155802.7) transcript is recommended as the knockout region. The region contains most coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cd84* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a knock-out allele of this gene show defects in T follicular helper function and germinal center formation. Mice homozygous for a different knock-out allele display normal platelet physiology and thrombus formation.
- The *Cd84* gene is located on the Chr1. 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)

Cd84 CD84 antigen [*Mus musculus* (house mouse)]

Gene ID: 12523, updated on 10-Oct-2019

Summary

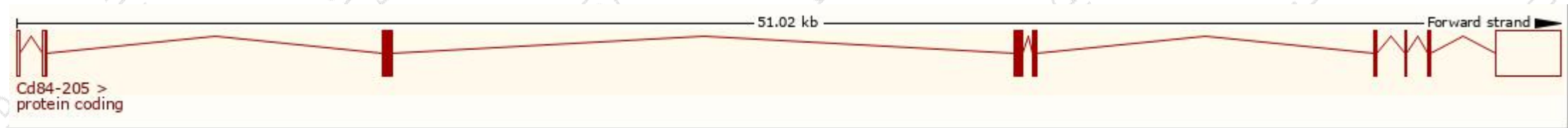
Official Symbol	Cd84 provided by MGI
Official Full Name	CD84 antigen provided by MGI
Primary source	MGI:MGI:1336885
See related	Ensembl:ENSMUSG00000038147
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	CDw84; SLAMF5; A130013D22Rik
Expression	Biased expression in thymus adult (RPKM 2.1), spleen adult (RPKM 1.0) and 14 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

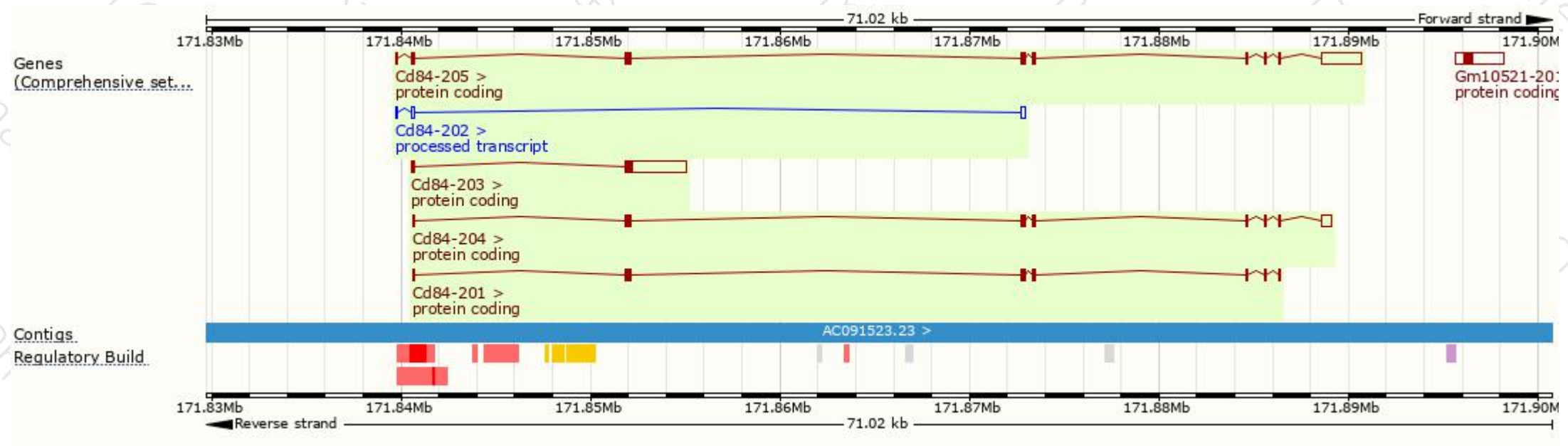
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cd84-203	ENSMUST00000135386.1	3434	140aa	Protein coding	CCDS56657	A0A0R4J1S4	TSL:1 GENCODE basic APPRIS ALT2
Cd84-205	ENSMUST00000155802.7	3291	329aa	Protein coding	CCDS15503	A0A0R4J0K5	TSL:1 GENCODE basic APPRIS P3
Cd84-204	ENSMUST00000136479.7	1503	328aa	Protein coding	CCDS69979	E9Q9E8	TSL:1 GENCODE basic APPRIS ALT2
Cd84-201	ENSMUST00000042302.6	1019	329aa	Protein coding	CCDS15503	A0A0R4J0K5	TSL:1 GENCODE basic APPRIS P3
Cd84-202	ENSMUST00000128189.1	454	No protein	Processed transcript	-	-	TSL:3

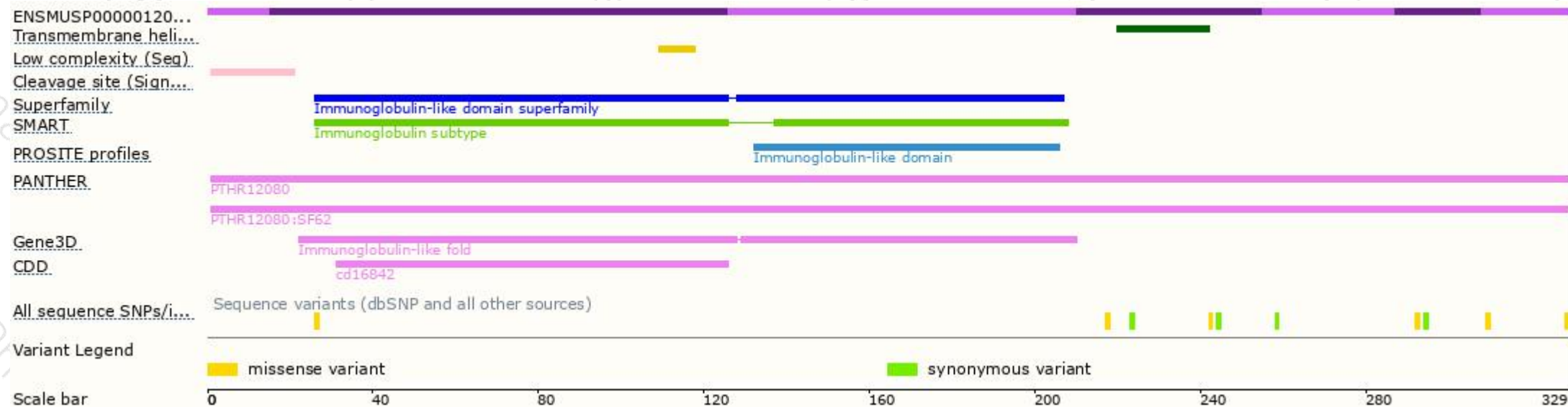
The strategy is based on the design of *Cd84-205* transcript,The transcription is shown below



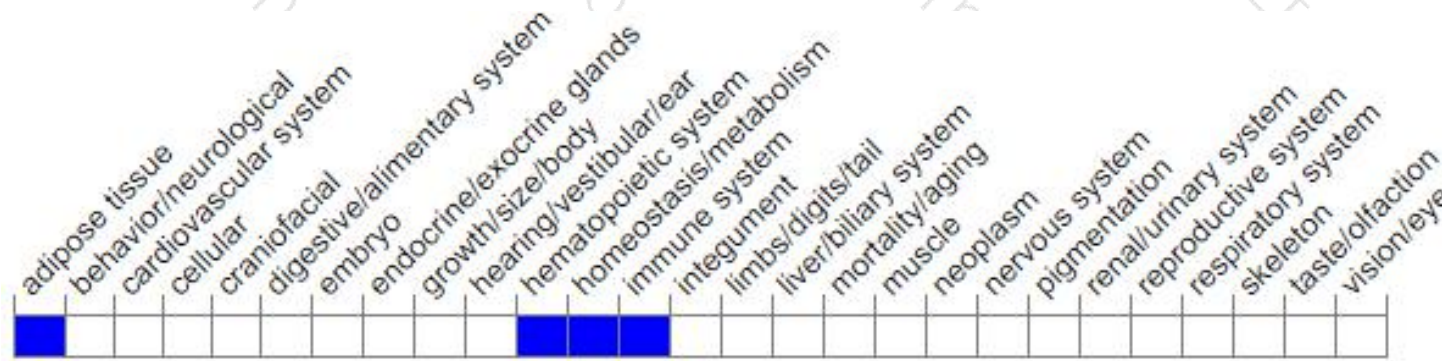
Genomic location distribution



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/>).

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

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