

Efcab9 Cas9-KO Strategy

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Project Overview

Project Name

Efcab9

Project type

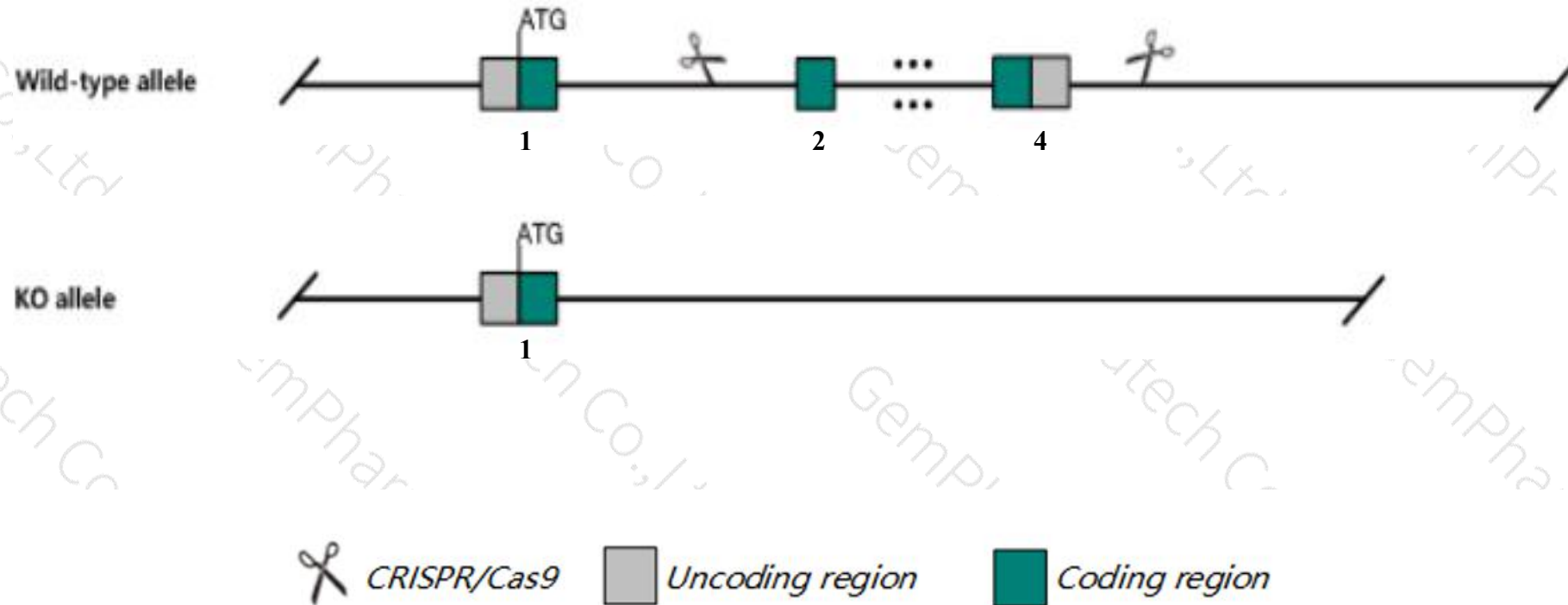
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Efcab9* gene. The schematic diagram is as follows:



- The *Efcab9* gene has 2 transcripts. According to the structure of *Efcab9* gene, exon2-exon4 of *Efcab9*-201(ENSMUST00000054327.2) transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Efcab9* 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 *Efcab9* 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)

Efcab9 EF-hand calcium binding domain 9 [Mus musculus (house mouse)]

Gene ID: 69306, updated on 13-Mar-2020

Summary



Official Symbol Efcab9 provided by [MGI](#)

Official Full Name EF-hand calcium binding domain 9 provided by [MGI](#)

Primary source [MGI:MGI:1916556](#)

See related [Ensembl:ENSMUSG00000044056](#)

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 1700007I06Rik, 4930403C08Rik

Expression Biased expression in testis adult (RPKM 38.3) and spleen adult (RPKM 1.8) [See more](#)

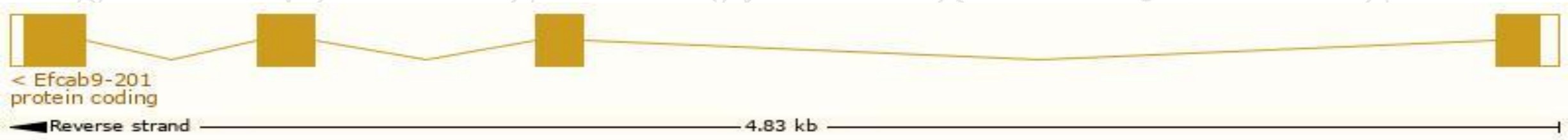
Orthologs [human all](#)

Transcript information (Ensembl)

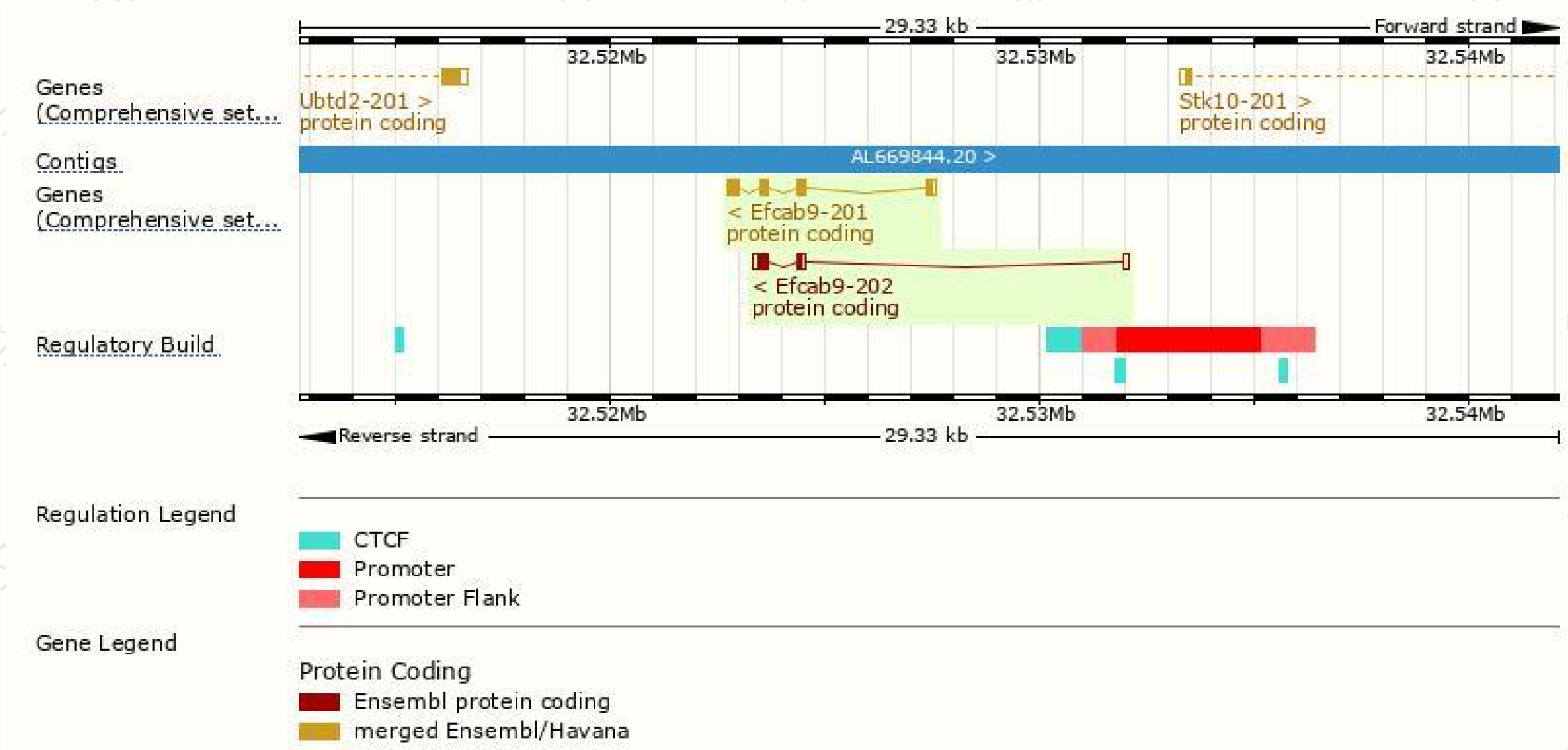
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Efcab9-201	ENSMUST00000054327.2	754	216aa	Protein coding	CCDS24528	Q9DAM2	TSL:1 GENCODE basic APPRIS P2
Efcab9-202	ENSMUST00000109377.1	615	112aa	Protein coding	-	B1ATW6	TSL:3 GENCODE basic APPRIS ALT2

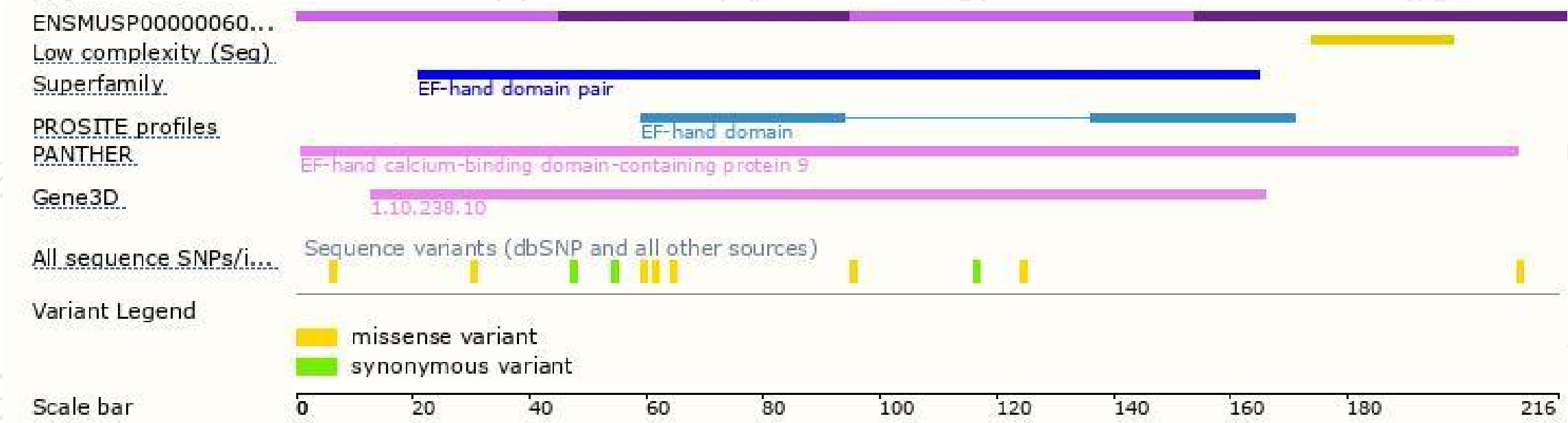
The strategy is based on the design of *Efcab9-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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