

Efcab10 Cas9-KO Strategy

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Project Overview

Project Name

Efcab10

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Efcab10* gene. The schematic diagram is as follows:



- The *Efcab10* gene has 1 transcript. According to the structure of *Efcab10* gene, exon2-exon3 of *Efcab10*-201(ENSMUST00000020878.7) transcript is recommended as the knockout region. The region contains 253bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Efcab10* 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 KO region is close to *Atxn7llos2* gene. Knockout the region may affect the function of *Atxn7llos2* gene.
- The *Efcab10* gene is located on the Chr12. 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)

Efcab10 EF-hand calcium binding domain 10 [*Mus musculus* (house mouse)]

Gene ID: 75040, updated on 25-Sep-2020

Summary

Official Symbol Efcab10 provided by [MGI](#)

Official Full Name EF-hand calcium binding domain 10 provided by [MGI](#)

Primary source [MGI:MGI:1922290](#)

See related [Ensembl:ENSMUSG00000020562](#)

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 4930504H06Rik

Expression Restricted expression toward testis adult (RPKM 41.8) [See more](#)

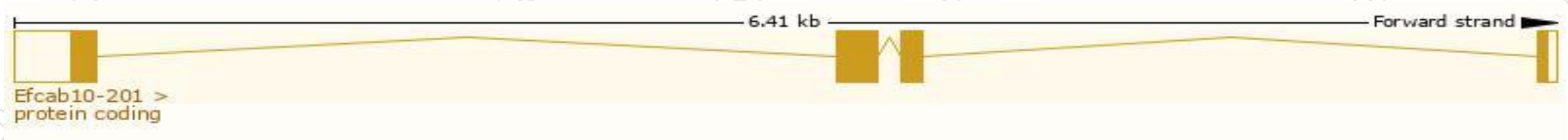
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

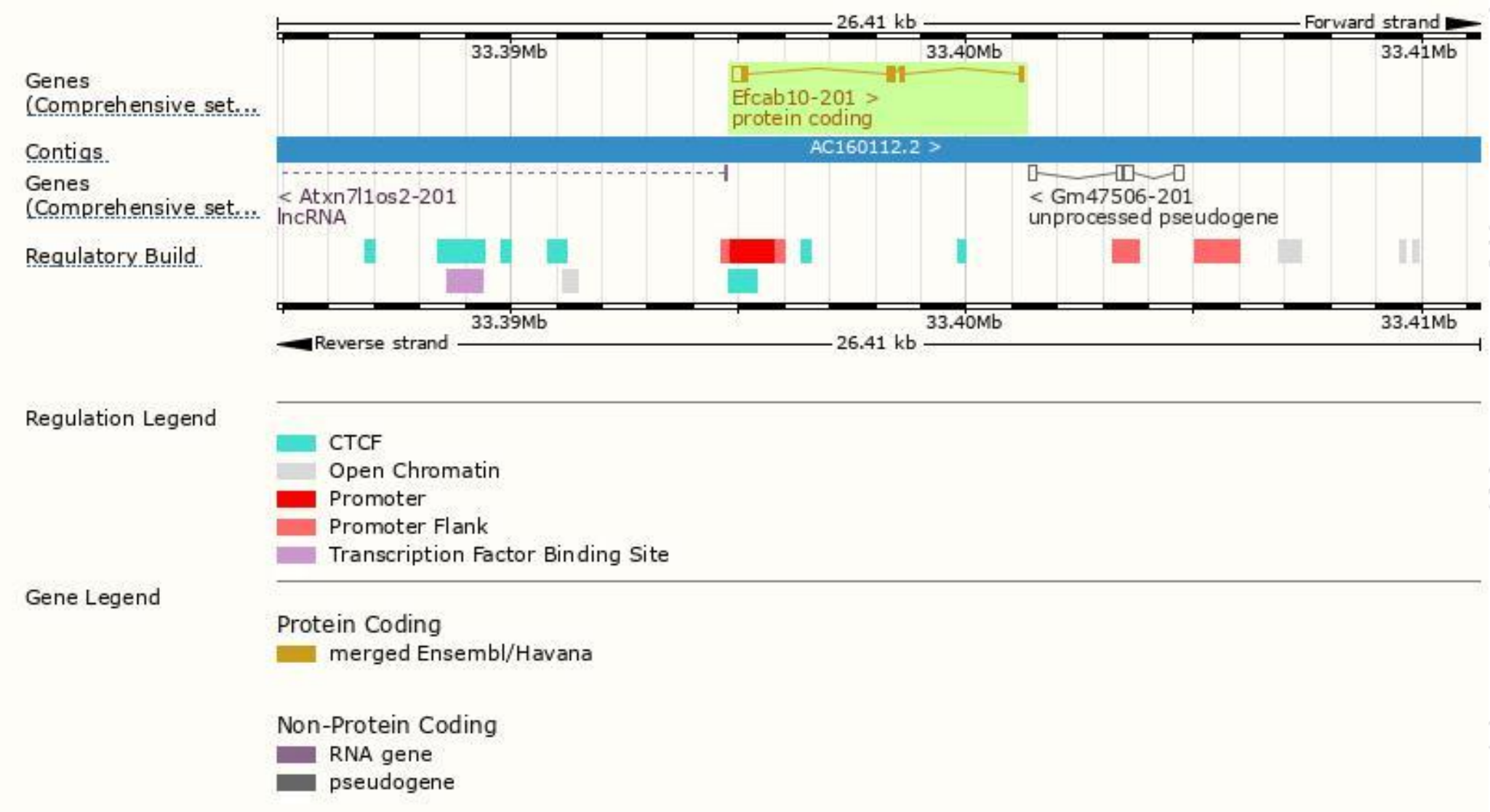
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Efcab10-201	ENSMUST00000020878.7	673	132aa	Protein coding	CCDS49048	Q9D581	TSL:1 GENCODE basic APPRIS P1

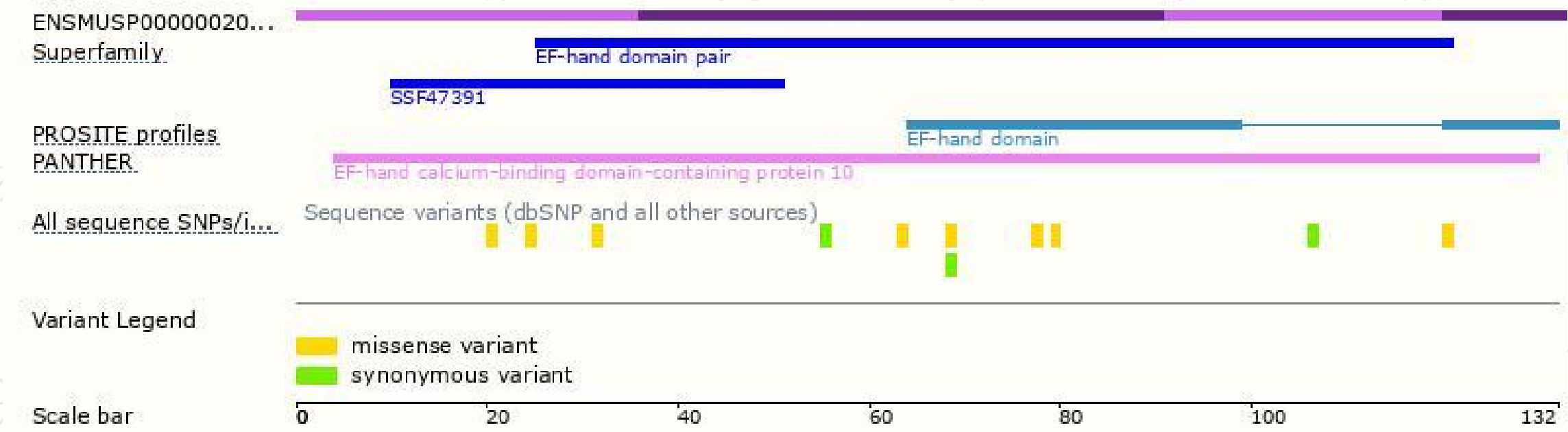
The strategy is based on the design of *Efcab10-201* transcript, the transcription is shown below:



Genomic location distribution



Protein domain



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

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