Efhc2 Cas9-KO Strategy

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Project Overview

Project Name	***Efhc2***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Efhc2* gene. The schematic diagram is as follows:

Technical routes

➢ The *Efhc2* gene has 1 transcript. According to the structure of *Efhc2* gene, exon3 of *Efhc2-201* (ENSMUST00000026014.7) transcript is recommended as the knockout region.The region contains 151bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Efhc2* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

➢ The *Efhc2* gene is located on the ChrX. 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）

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Efhc2 EF-hand domain (C-terminal) containing 2 [Mus musculus (house mouse)]

Gene ID: 74405, updated on 31-Jan-2019

Summary

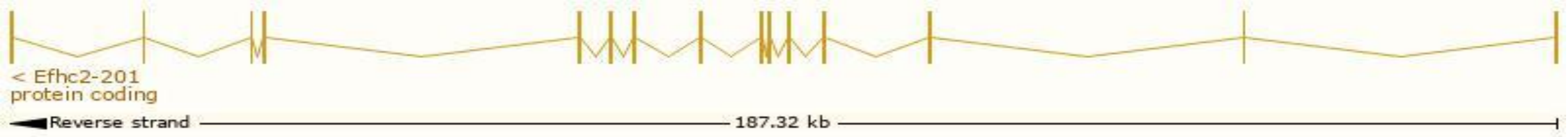
Official Symbol	Efhc2 provided by MGI
Official Full Name	EF-hand domain (C-terminal) containing 2 provided by MGI
Primary source	MGI:MGI:1921655
See related	Ensembl:ENSMUSG00000025038
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4933407D04Rik, mRib72-2
Expression	Biased expression in testis adult (RPKM 2.7), placenta adult (RPKM 0.8) and 6 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

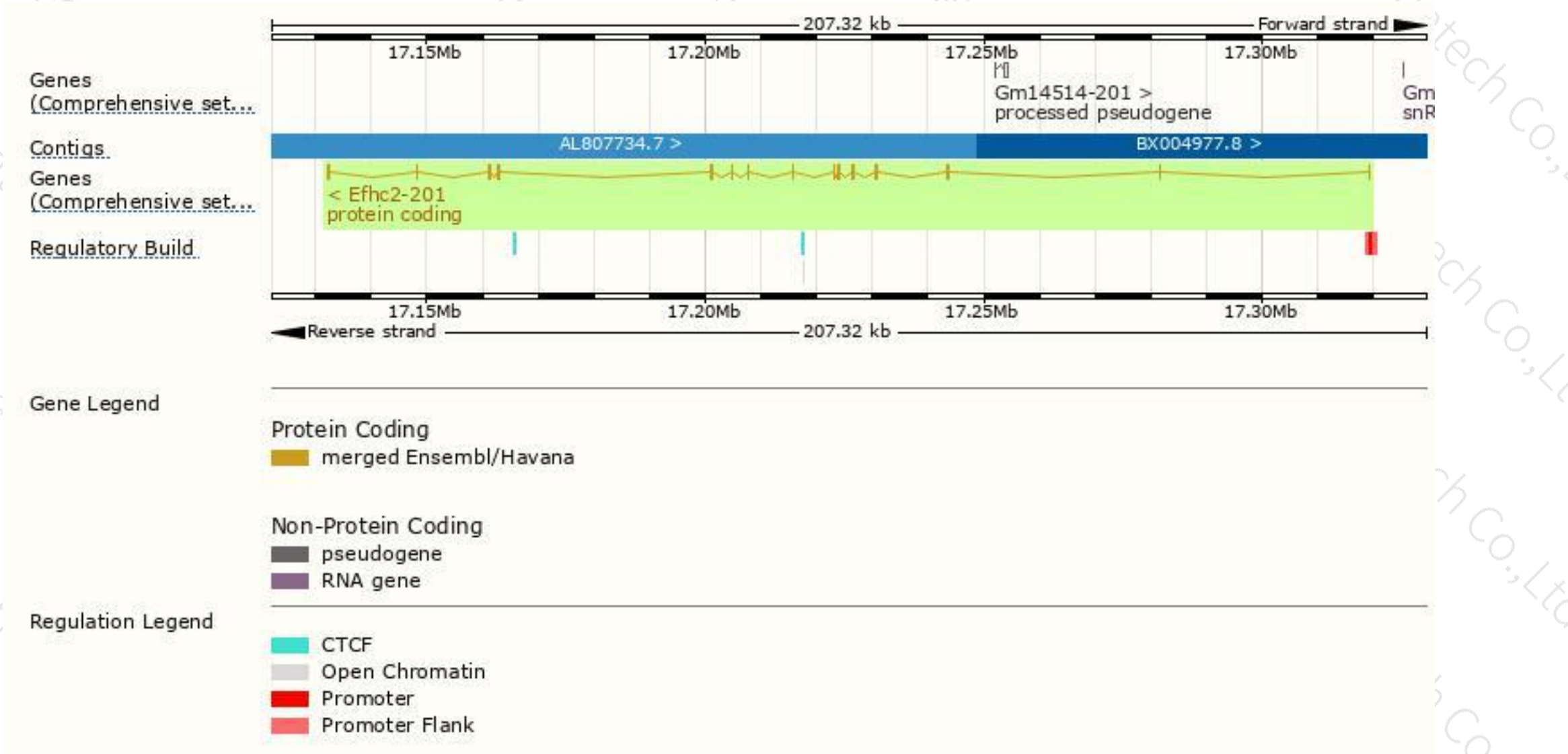
The gene has 1 transcript,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Efhc2-201	ENSMUST00000026014.7	2554	750aa	Protein coding	CCDS40883	Q059K2 Q9D485	TSL:1 GENCODE basic APPRIS P1

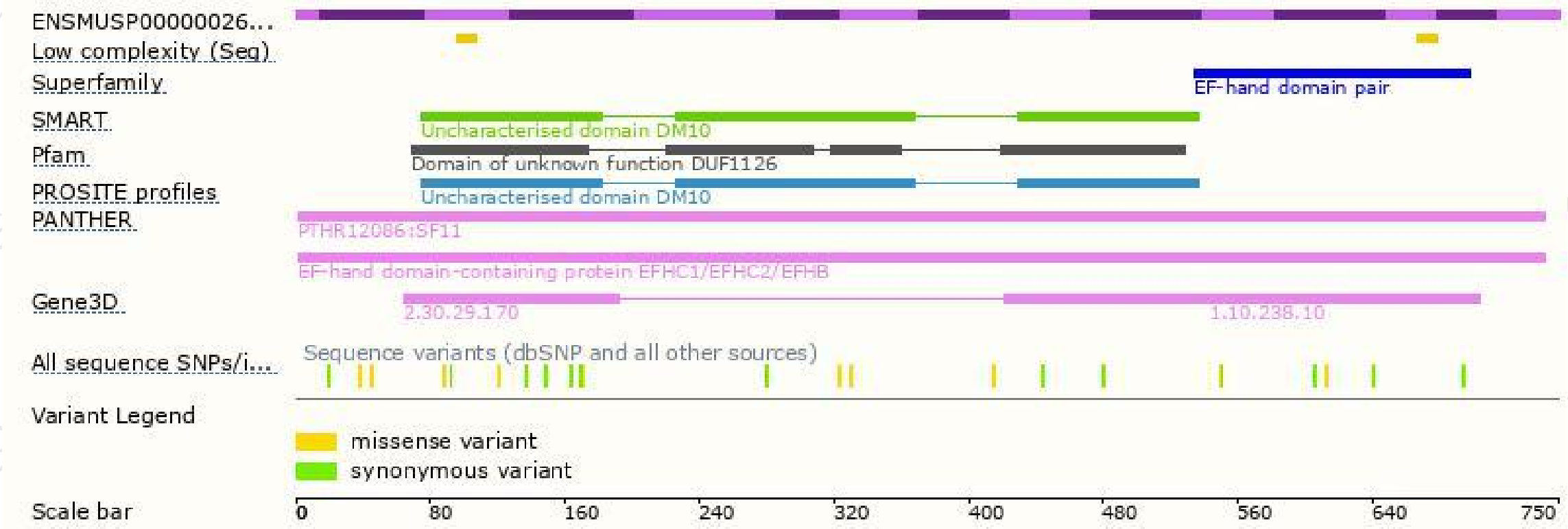
The strategy is based on the design of *Efhc2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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