

Fcho1 Cas9-CKO Strategy

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Project Overview

Project Name

Fcho1

Project type

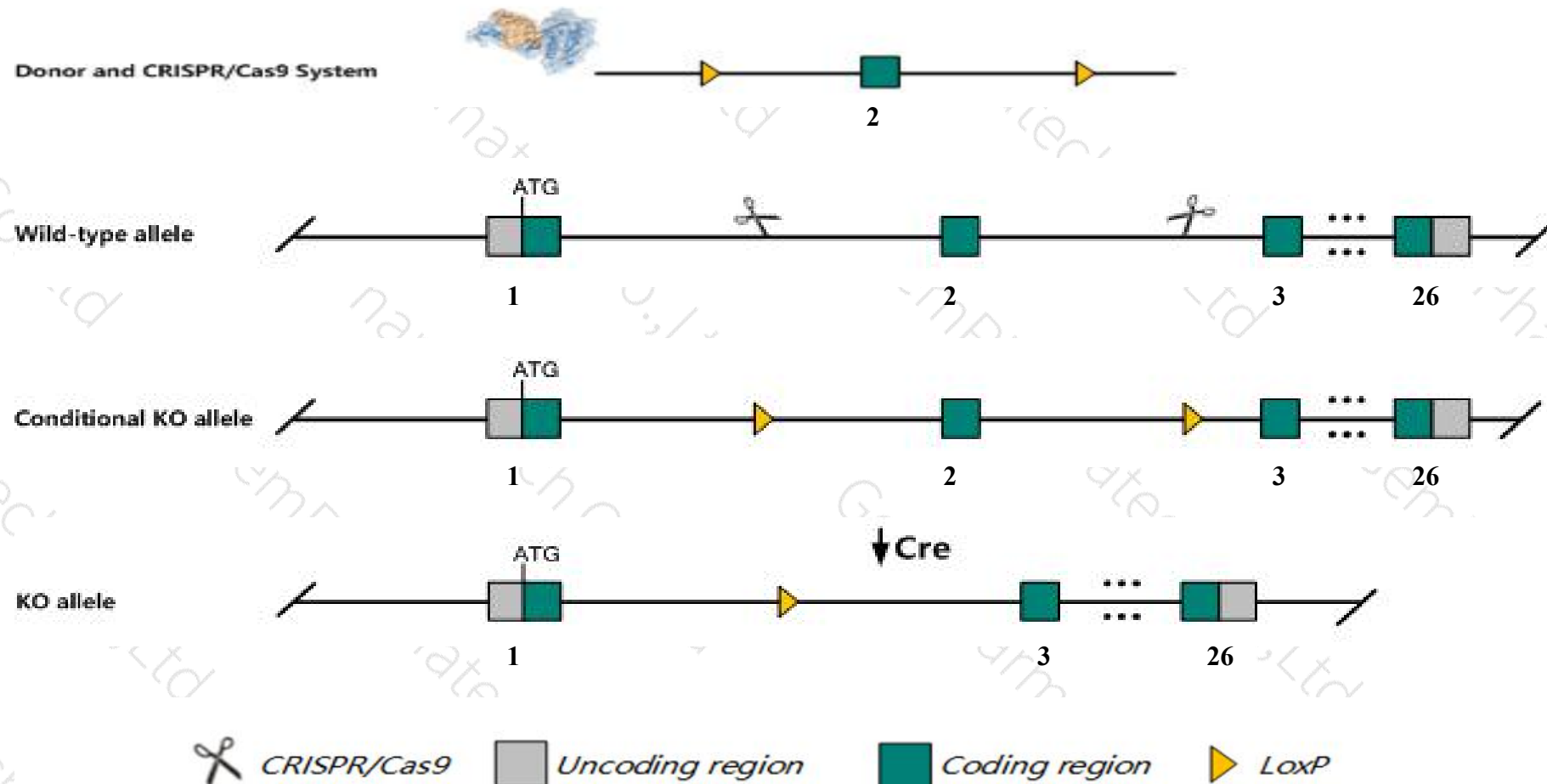
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fcho1* gene. The schematic diagram is as follows:



- The *Fcho1* gene has 12 transcripts. According to the structure of *Fcho1* gene, exon2 of *Fcho1-201* (ENSMUST00000093444.12) transcript is recommended as the knockout region. The region contains 92bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fcho1* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- Transcript *Fchol*-202,205,207,210 may be unaffected.
- The *Fchol* gene is located on the Chr8. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Fcho1 FCH domain only 1 [Mus musculus (house mouse)]

Gene ID: 74015, updated on 31-Jan-2019

Summary



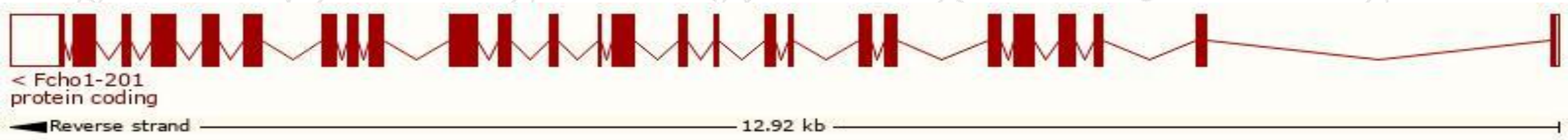
Official Symbol	Fcho1 provided by MGI
Official Full Name	FCH domain only 1 provided by MGI
Primary source	MGI:MGI:1921265
See related	Ensembl:ENSMUSG00000070000
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	3322402E17Rik, N28152
Expression	Biased expression in thymus adult (RPKM 111.2), spleen adult (RPKM 53.6) and 13 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

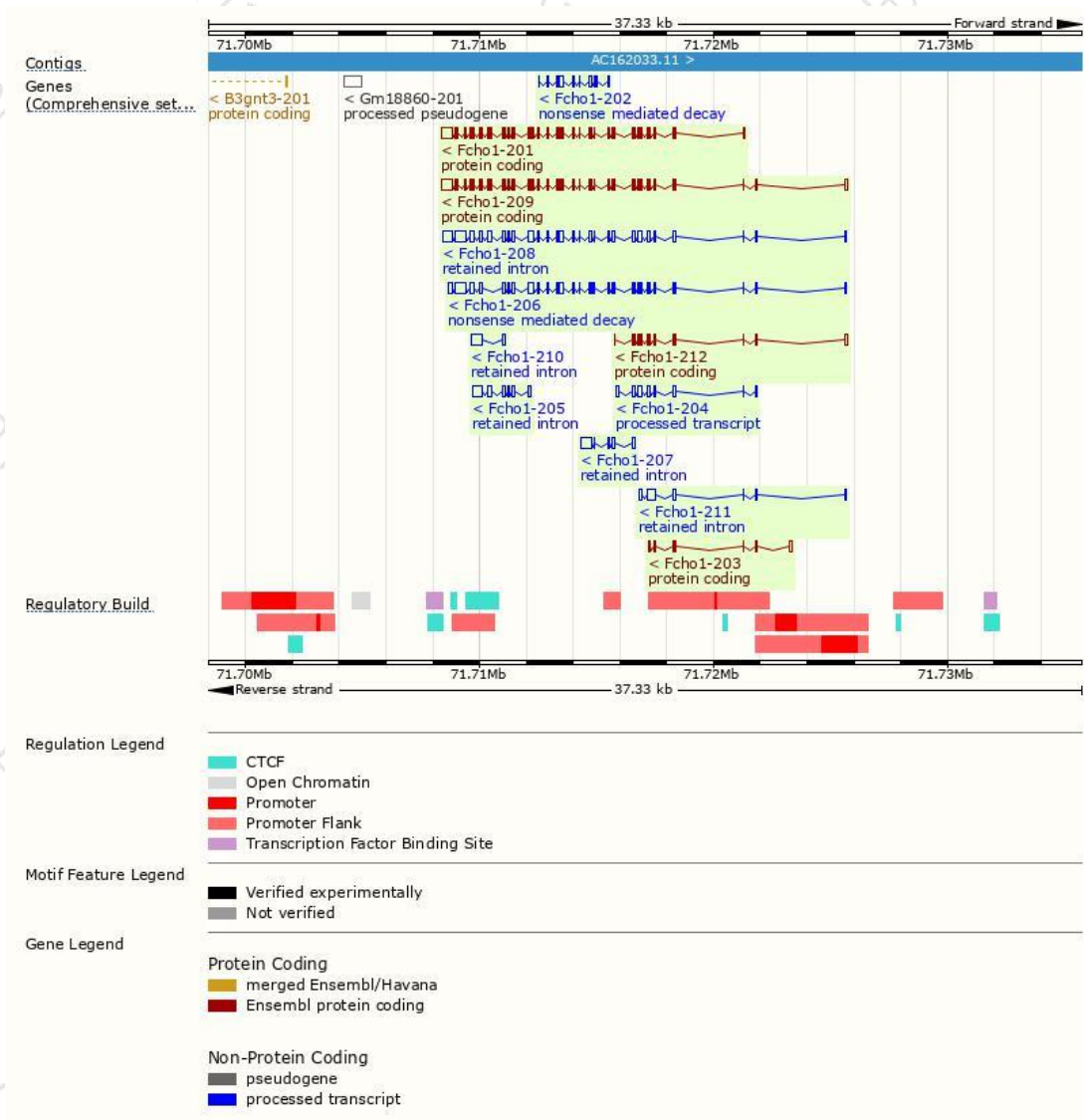
The gene has 12 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fcho1-201	ENSMUST00000093444.12	3073	873aa	Protein coding	CCDS52588	Q8K285	TSL:5 GENCODE basic APPRIS P1
Fcho1-209	ENSMUST00000146100.7	3188	873aa	Protein coding	-	Q8K285	TSL:1 GENCODE basic APPRIS P1
Fcho1-212	ENSMUST00000153800.7	746	203aa	Protein coding	-	D3Z6N2	CDS 3' incomplete TSL:5
Fcho1-203	ENSMUST00000125092.1	443	87aa	Protein coding	-	D3YYE9	CDS 3' incomplete TSL:2
Fcho1-206	ENSMUST00000136640.7	2966	304aa	Nonsense mediated decay	-	D6RCG0	TSL:1
Fcho1-202	ENSMUST00000123425.1	682	84aa	Nonsense mediated decay	-	F6VQ30	CDS 5' incomplete TSL:3
Fcho1-204	ENSMUST00000126455.7	732	No protein	Processed transcript	-	-	TSL:3
Fcho1-208	ENSMUST00000143699.7	3351	No protein	Retained intron	-	-	TSL:1
Fcho1-205	ENSMUST00000127005.1	1027	No protein	Retained intron	-	-	TSL:2
Fcho1-207	ENSMUST00000141323.1	733	No protein	Retained intron	-	-	TSL:3
Fcho1-211	ENSMUST00000152742.7	678	No protein	Retained intron	-	-	TSL:5
Fcho1-210	ENSMUST00000149363.7	599	No protein	Retained intron	-	-	TSL:3

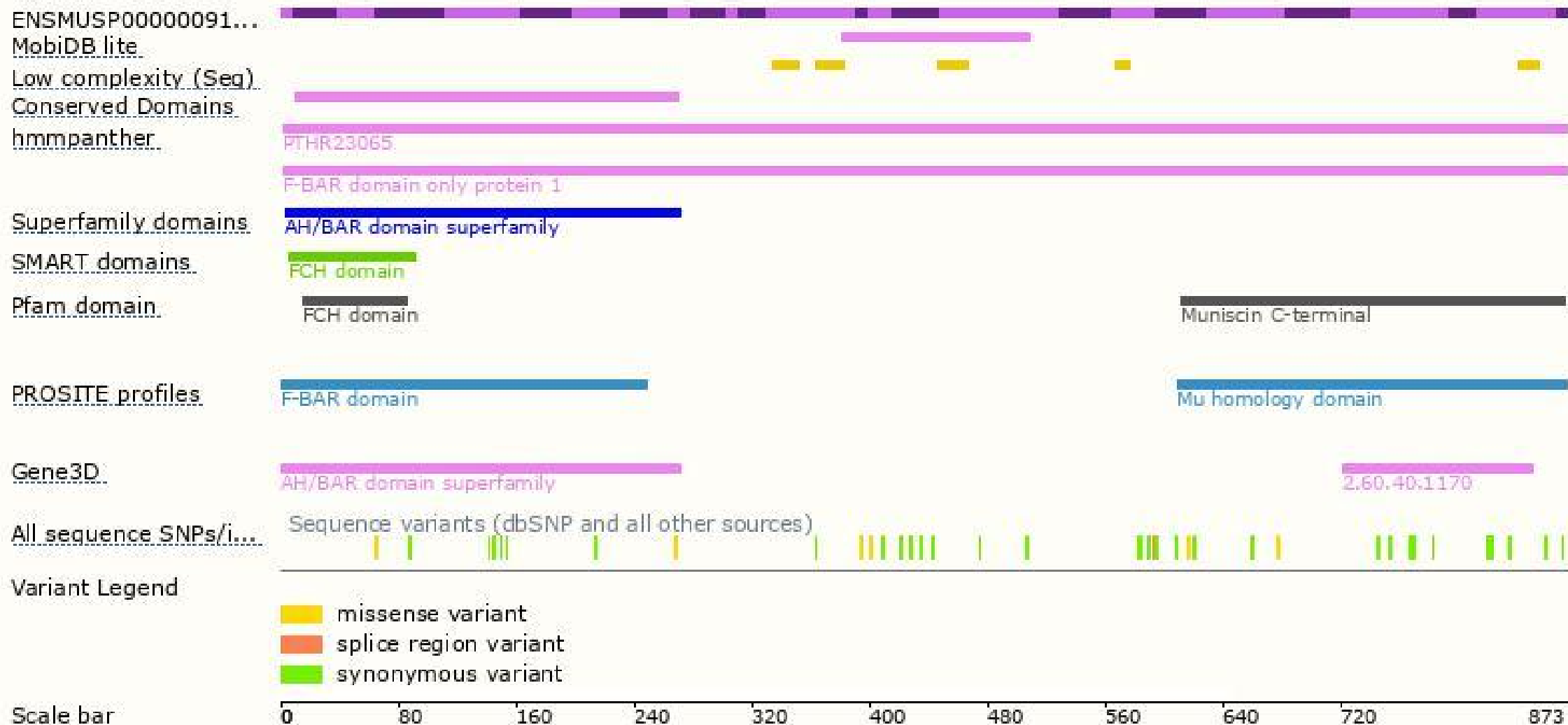
The strategy is based on the design of *Fcho1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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