

***Zcchc24* Cas9-KO Strategy**

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Project Overview

Project Name

Zcchc24

Project type

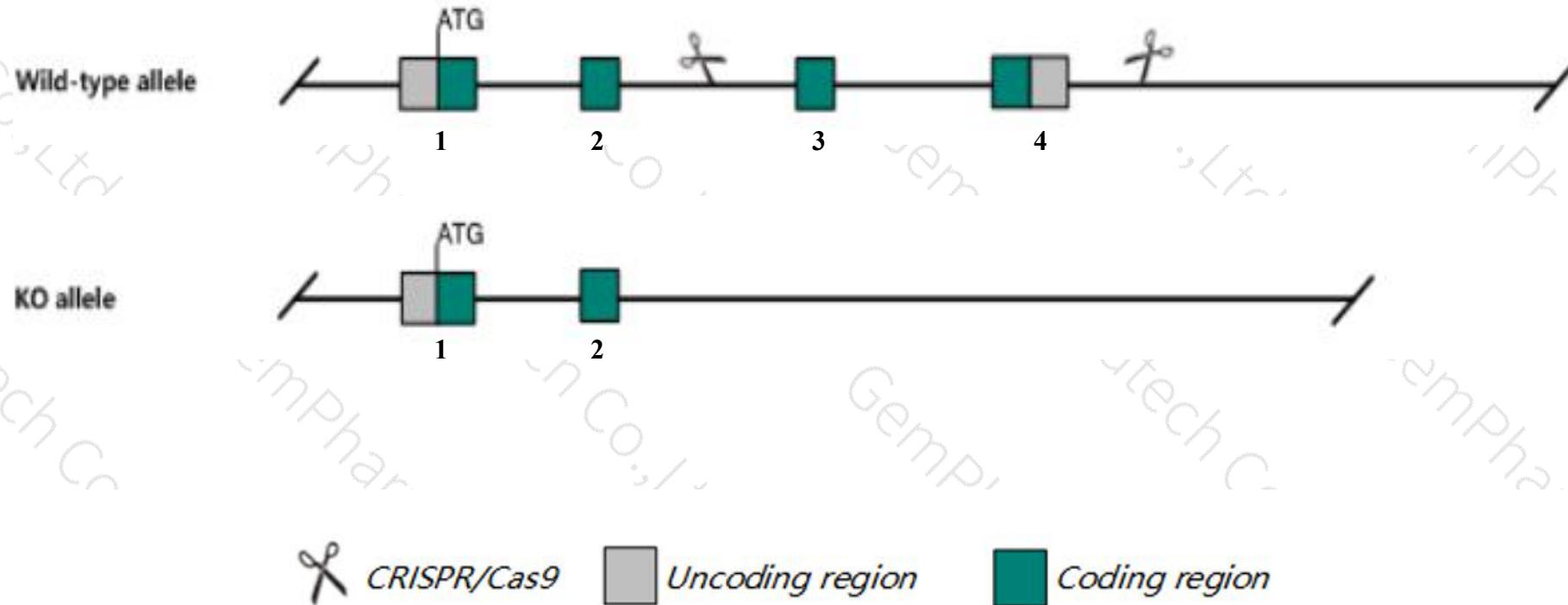
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zcchc24* gene. The schematic diagram is as follows:



- The *Zcchc24* gene has 2 transcripts. According to the structure of *Zcchc24* gene, exon3-exon4 of *Zcchc24*-201(ENSMUST00000069180.7) transcript is recommended as the knockout region. The region contains part 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 *Zcchc24* 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 *1700054O19Rik* gene. Knockout the region may affect the function of *1700054O19Rik* gene.
- The N-terminal of *Zcchc24* gene will remain several amino acids, it may remain the partial function of *Zcchc24* gene.
- The *Zcchc24* gene is located on the Chr14. 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)

Zcchc24 zinc finger, CCHC domain containing 24 [*Mus musculus* (house mouse)]

Gene ID: 71918, updated on 25-Sep-2020

Summary



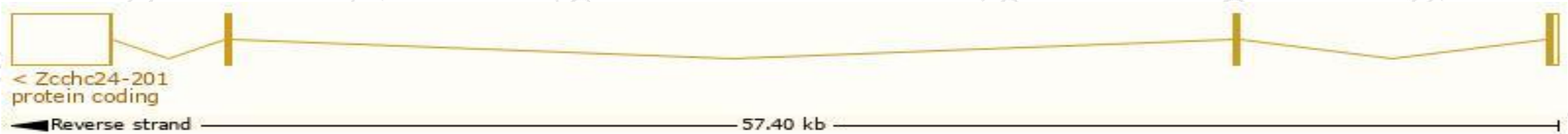
Official Symbol	Zcchc24 provided by MGI
Official Full Name	zinc finger, CCHC domain containing 24 provided by MGI
Primary source	MGI:MGI:1919168
See related	Ensembl:ENSMUSG00000055538
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2310047A01Rik
Expression	Ubiquitous expression in subcutaneous fat pad adult (RPKM 45.1), mammary gland adult (RPKM 33.6) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

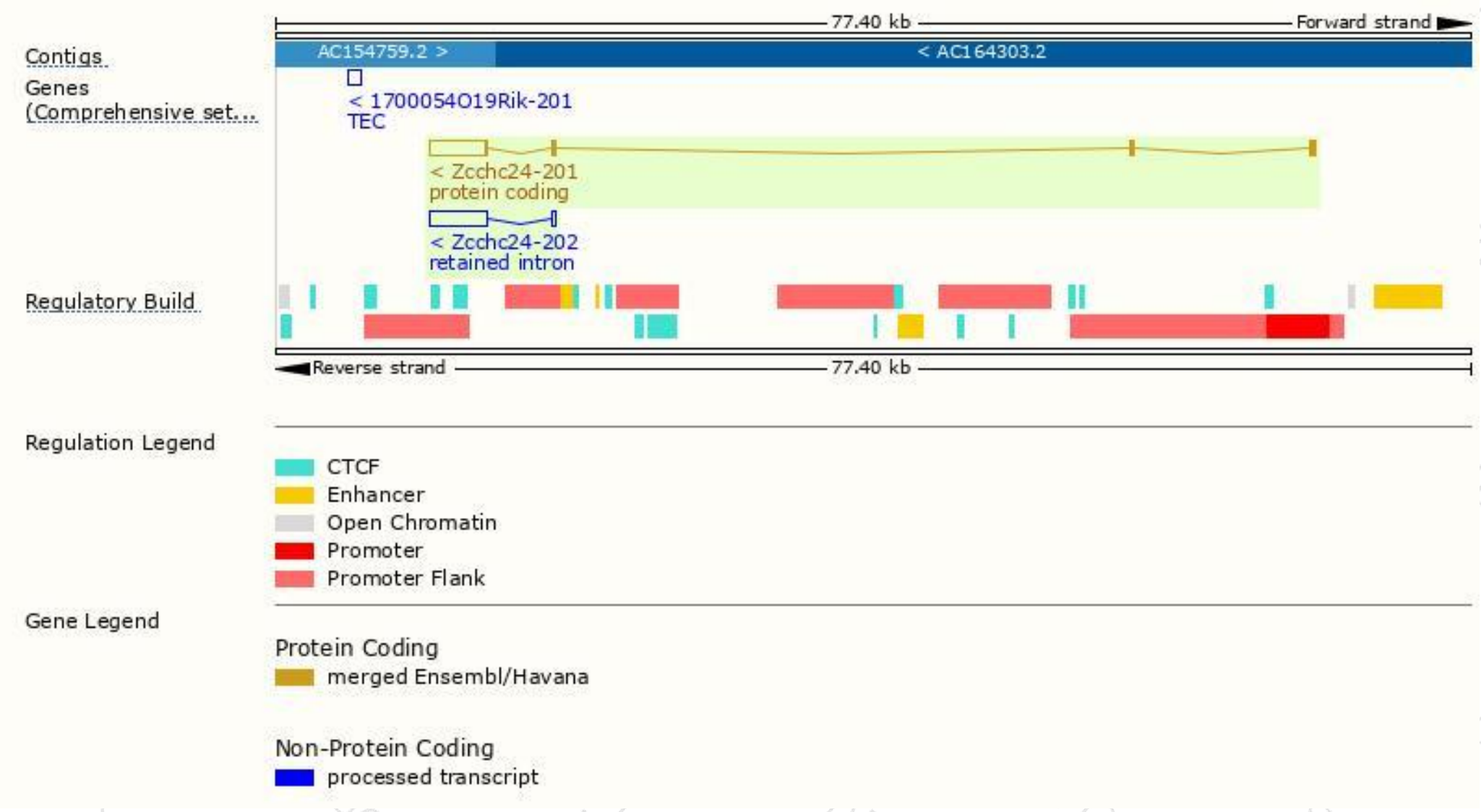
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zcchc24-201	ENSMUST00000069180.7	4556	241aa	Protein coding	CCDS49419	B2RVL6	TSL:1 GENCODE basic APPRIS P1
Zcchc24-202	ENSMUST00000184642.1	3925	No protein	Retained intron	-	-	TSL:1

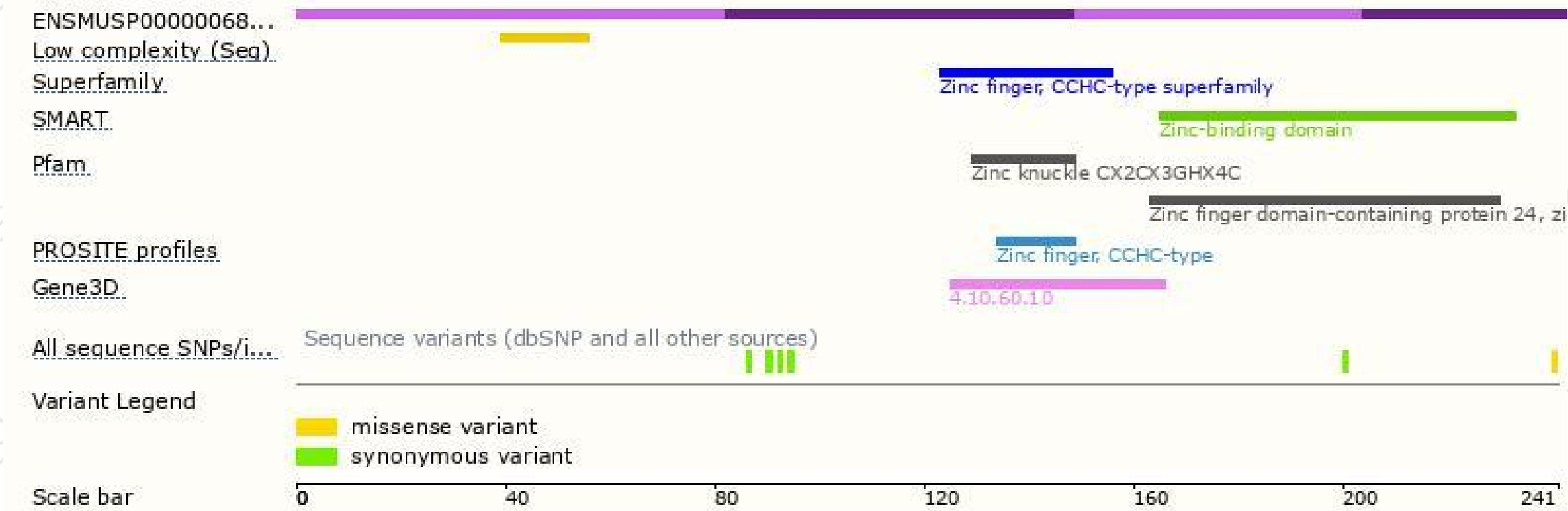
The strategy is based on the design of *Zcchc24-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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