

Ftmt Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Ftmt

Project type

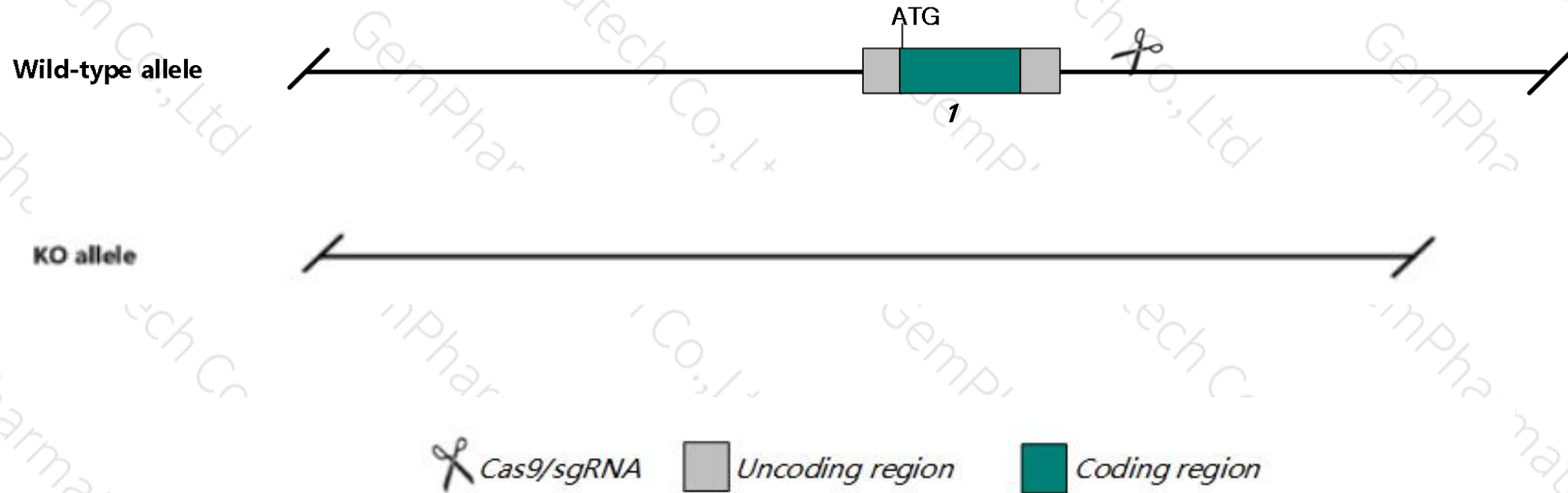
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Ftmt* gene has 1 transcript. According to the structure of *Ftmt* gene, exon1 of *Ftmt*-201 (ENSMUST00000025388.6) transcript is recommended as the knockout region. The region contains all 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 *Ftmt* gene. The brief process is as follows: CRISPR/Cas9 system v

- According to the existing MGI data, Mice homozygous for a knock-out allele do not exhibit any overt phenotype.
- The *Ftmt* gene is located on the Chr18. 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)

Ftmt ferritin mitochondrial [*Mus musculus* (house mouse)]

Gene ID: 67634, updated on 13-Mar-2020

Summary

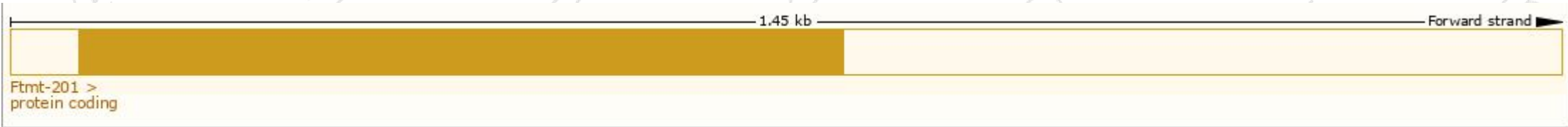
Official Symbol	Ftmt provided by MGI
Official Full Name	ferritin mitochondrial provided by MGI
Primary source	MGI:MGI:1914884
See related	Ensembl:ENSMUSG00000024510
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	MtF; FerH; Fth3; 4930447C24Rik
Orthologs	human all

Transcript information (Ensembl)

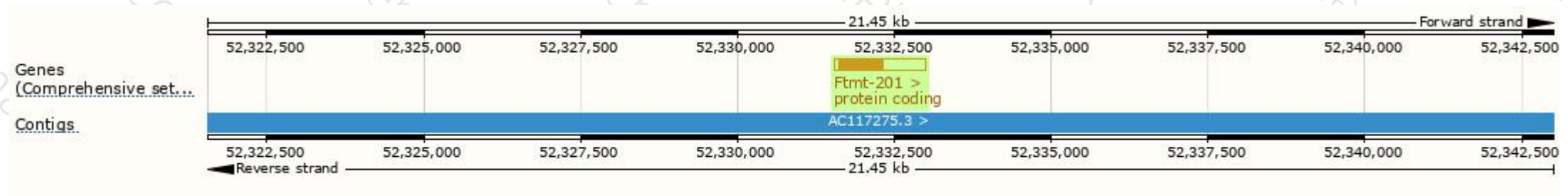
The gene has 1 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ftmt-201	ENSMUST00000025388.6	1448	237aa	Protein coding	CCDS29246	Q9D5H4	TSL:NA GENCODE basic APPRIS P1

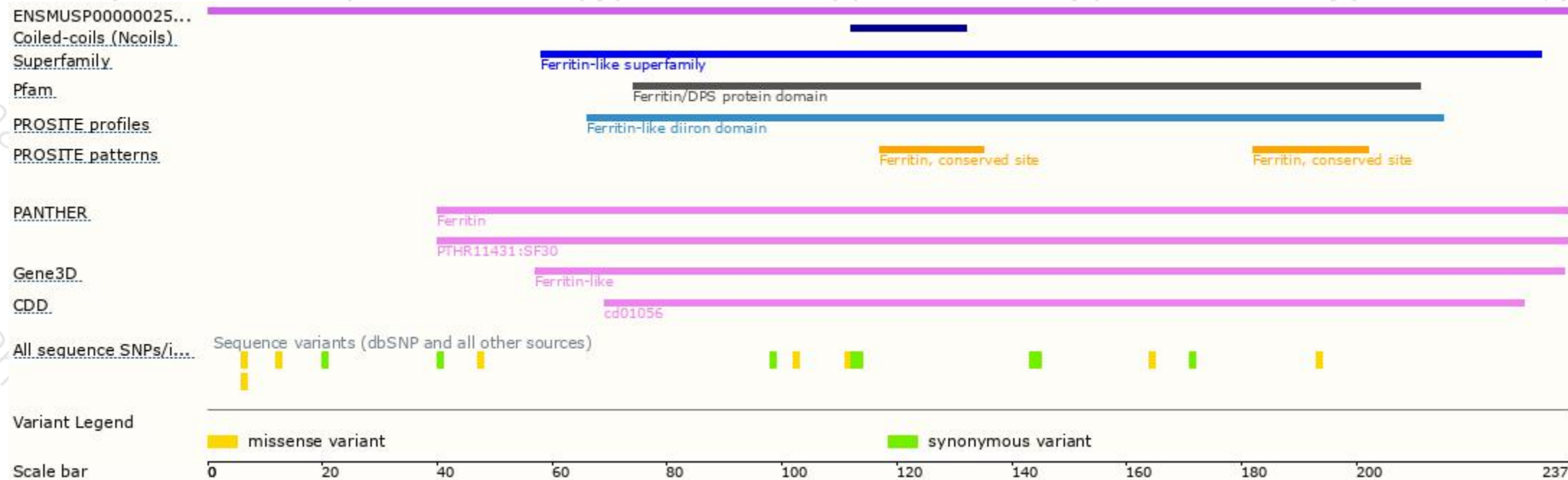
The strategy is based on the design of *Ftmt-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



Mouse phenotype description(MGI)

Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

According to the existing MGI data, Mice homozygous for a knock-out allele do not exhibit any overt phenotype.

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

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