Fbxo40 Cas9-KO Strategy

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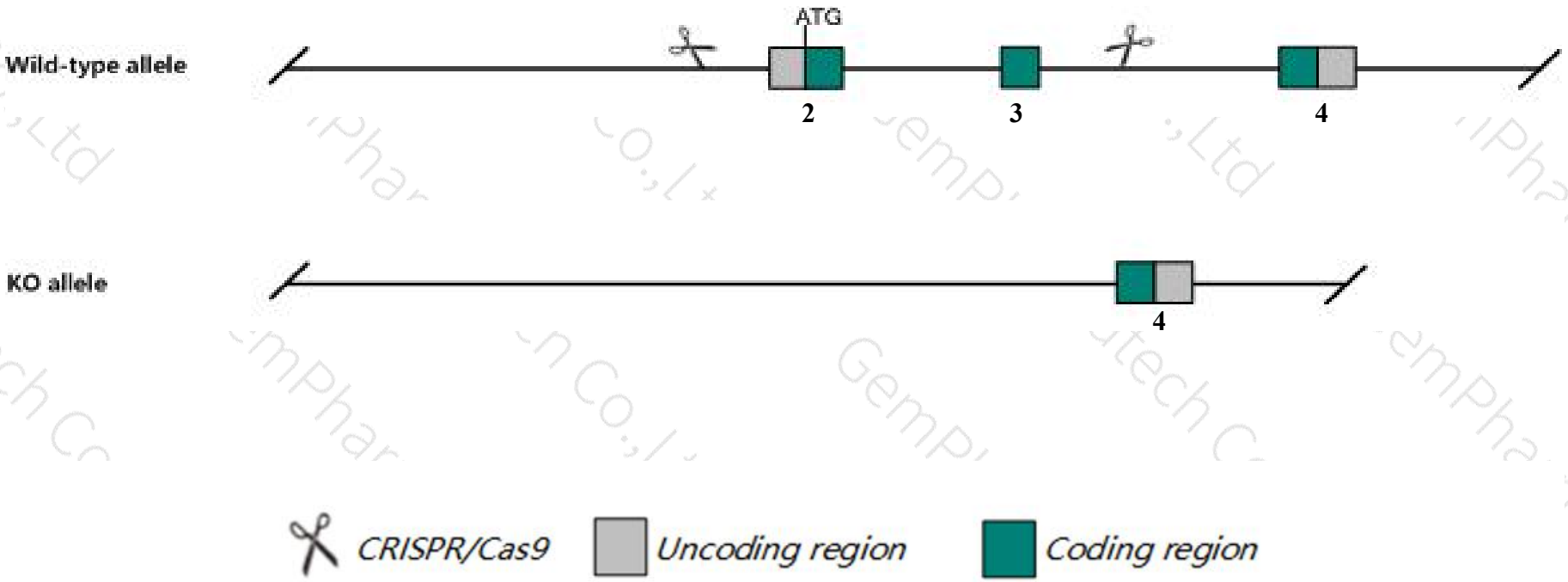
Project Overview

Project Name	***Fbxo40***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxo40* gene. The schematic diagram is as follows:



Technical routes

➢ The *Fbxo40* gene has 4 transcripts. According to the structure of *Fbxo40* gene, exon2-exon3 of *Fbxo40-201* (ENSMUST00000075869.12) transcript is recommended as the knockout region.The region contains start codon ATG. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Fbxo40* gene. The brief process is as follows: CRISPR/Cas9 syster

Notice

➢ The *Fbxo40* gene is located on the Chr16. 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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Fbxo40 F-box protein 40 [Mus musculus (house mouse)]

Gene ID: 207215, updated on 3-Feb-2019

Summary

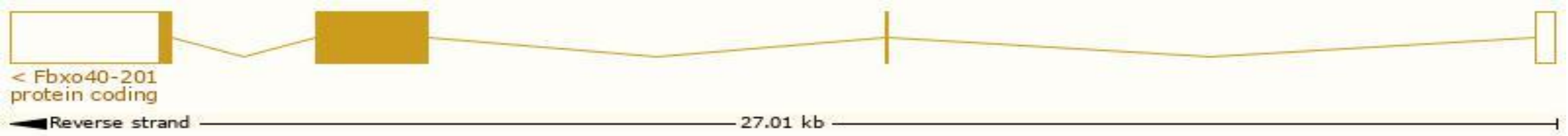
Official Symbol	Fbxo40 provided by MGI
Official Full Name	F-box protein 40 provided by MGI
Primary source	MGI:MGI:2443753
See related	Ensembl:ENSMUSG00000047746
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	9830003A13Rik, mKIAA1195
Expression	Biased expression in heart adult (RPKM 22.5), mammary gland adult (RPKM 3.6) and 1 other tissue See more
Orthologs	human all

Transcript information（Ensembl）

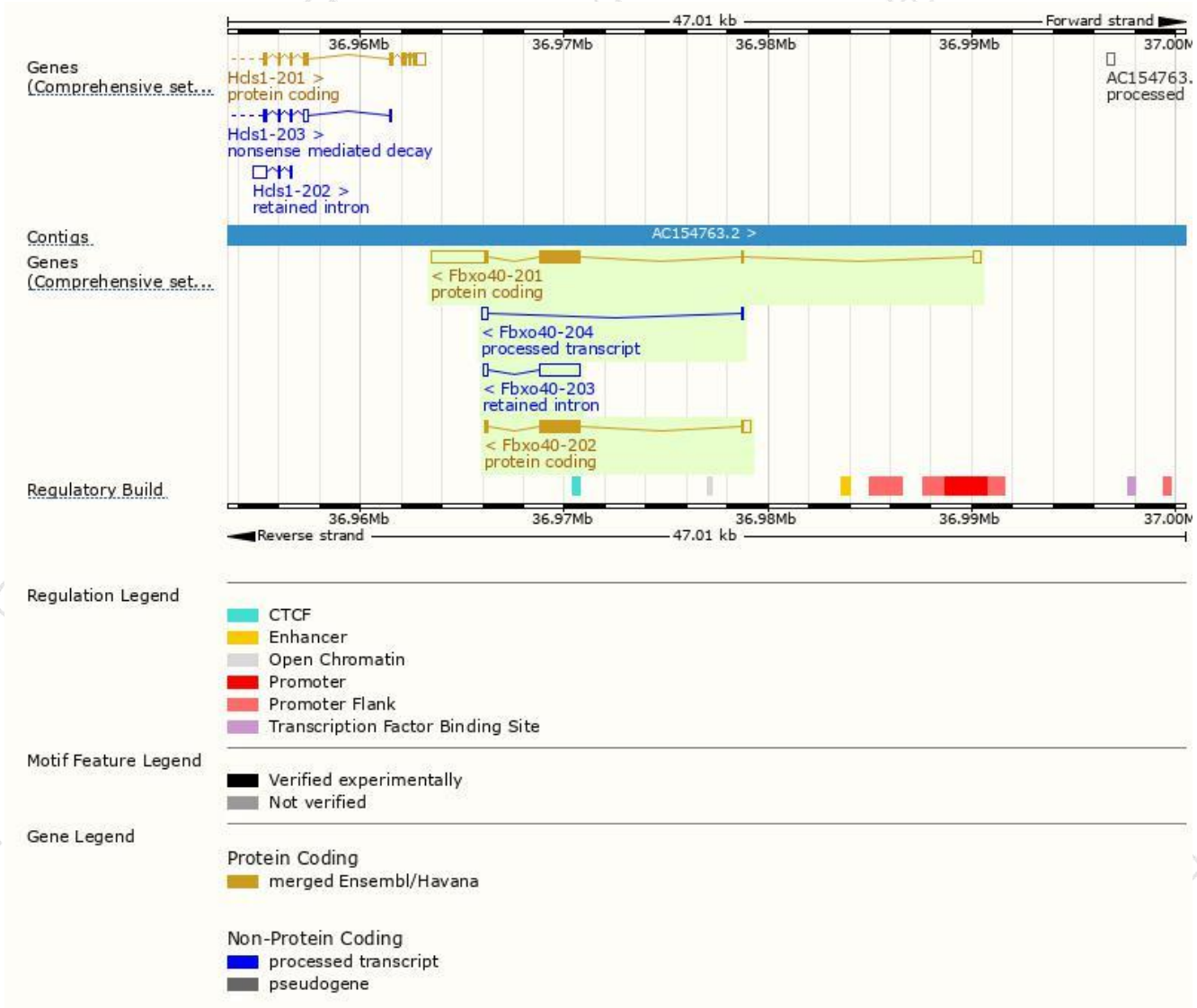
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxo40-201	ENSMUST00000075869.12	5137	710aa	Protein coding	CCDS37337	P62932 Q3KN92	TSL:1 GENCODE basic APPRIS P1
Fbxo40-202	ENSMUST00000114806.1	2518	710aa	Protein coding	CCDS37337	P62932 Q3KN92	TSL:1 GENCODE basic APPRIS P1
Fbxo40-204	ENSMUST00000132511.1	383	No protein	Processed transcript	-	-	TSL:5
Fbxo40-203	ENSMUST00000127808.1	2185	No protein	Retained intron	-	-	TSL:1

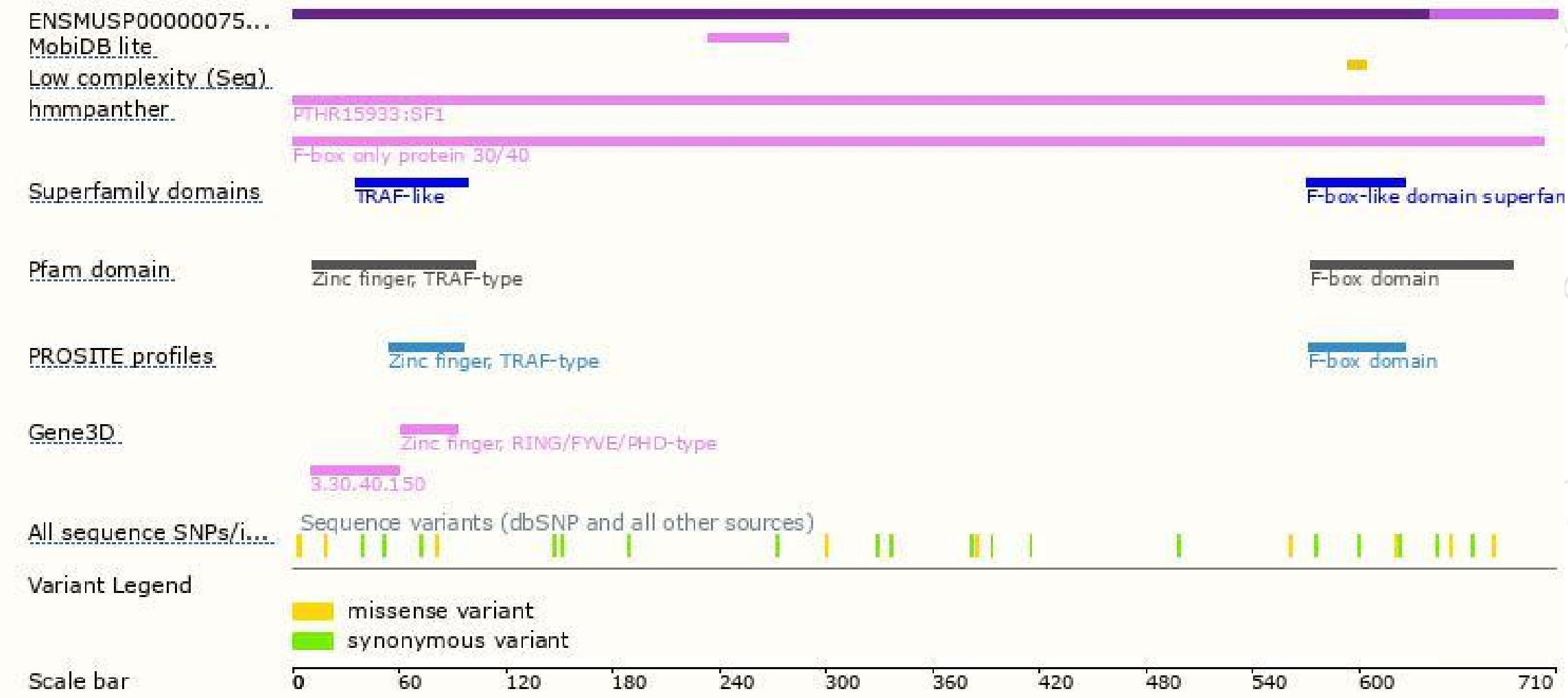
The strategy is based on the design of *Fbxo40-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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