Fbxo42 Cas9-KO Strategy

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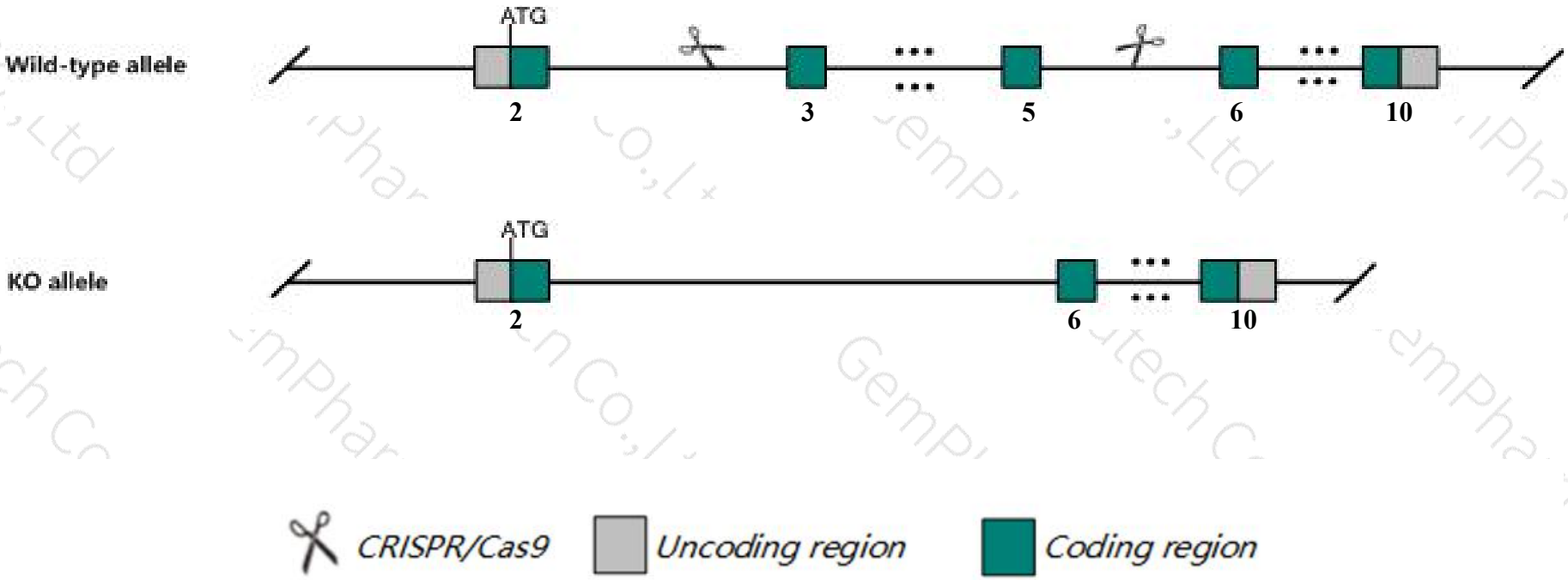
Project Overview

Project Name	***Fbxo42***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxo42* gene. The schematic diagram is as follows:



Technical routes

➢ The *Fbxo42* gene has 2 transcripts. According to the structure of *Fbxo42* gene, exon3-exon5 of *Fbxo42-201* (ENSMUST00000030757.9) transcript is recommended as the knockout region.The region contains 406bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Fbxo42* gene. The brief process is as follows: CRISPR/Cas9 syster

Notice

➢ The *Fbxo42* gene is located on the Chr4. 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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Fbxo42 F-box protein 42 [*Mus musculus* (house mouse)]

Gene ID: 213499, updated on 12-Aug-2019

Summary

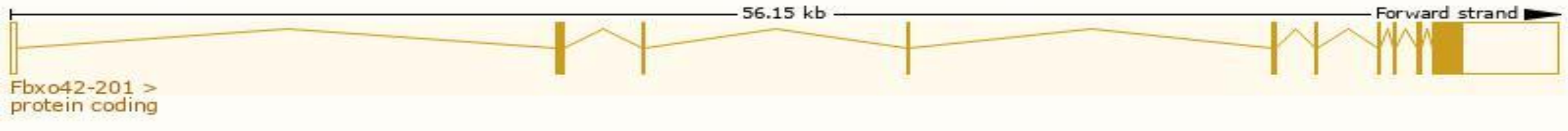
Official Symbol	Fbxo42 provided by MGI
Official Full Name	F-box protein 42 provided by MGI
Primary source	MGI:MGI:1924992
See related	Ensembl:ENSMUSG00000028920
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	mKIAA1332; 6720460I06Rik
Expression	Ubiquitous expression in thymus adult (RPKM 8.6), whole brain E14.5 (RPKM 8.0) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

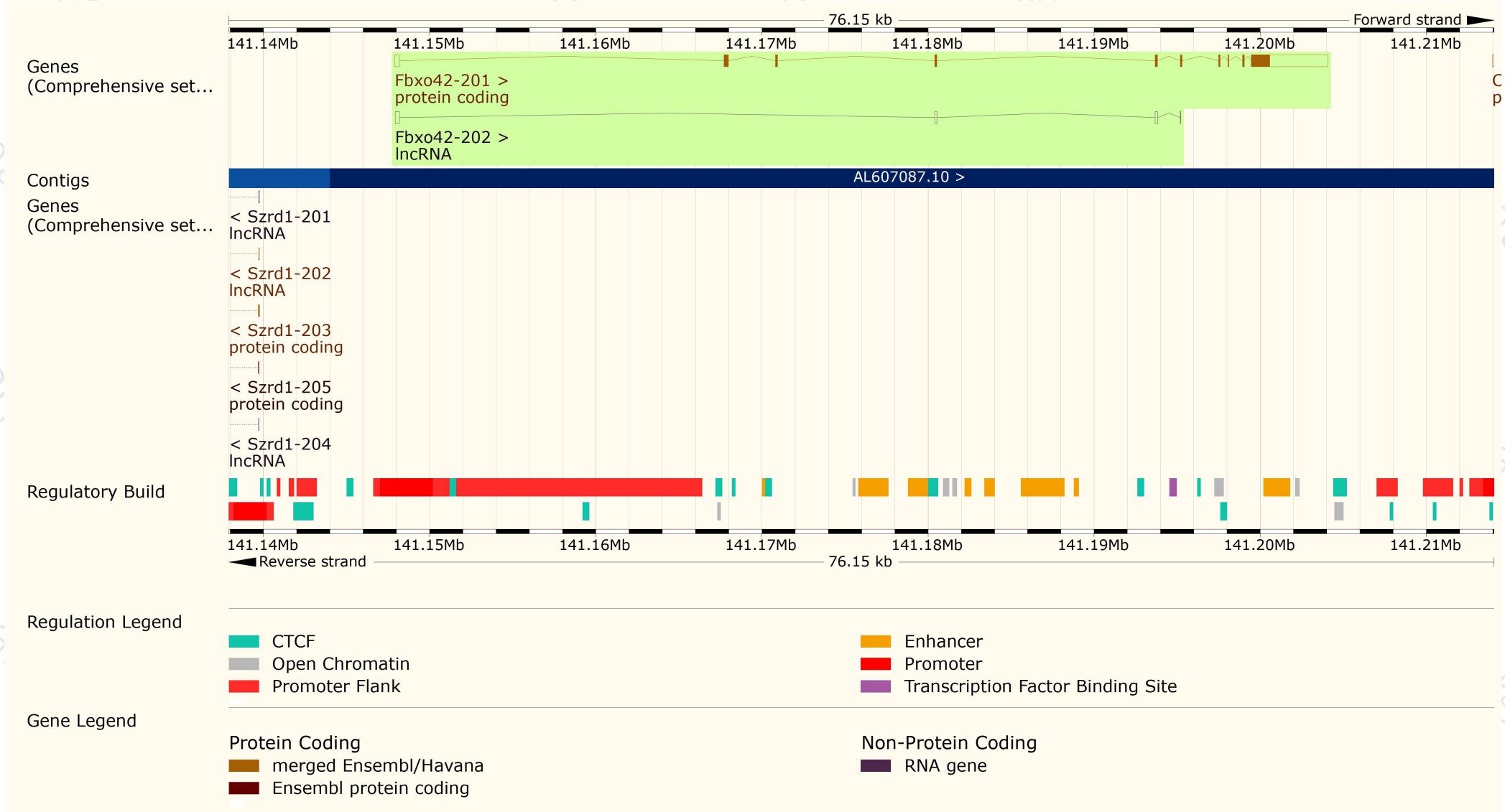
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxo42-201	ENSMUST00000030757.9	5934	717aa	Protein coding	CCDS18866	Q6PDJ6	TSL:1 GENCODE basic APPRIS P1
Fbxo42-202	ENSMUST00000146768.1	579	No protein	Processed transcript	-	-	TSL:3

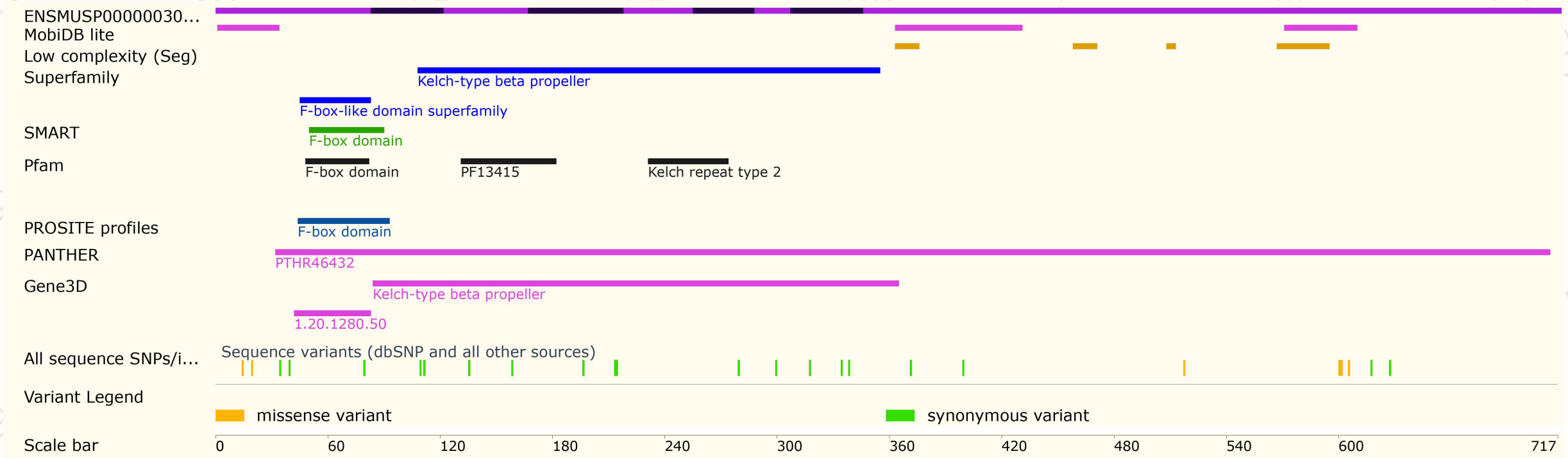
The strategy is based on the design of *Fbxo42-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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