Fbxo28 Cas9-CKO Strategy

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Project Overview

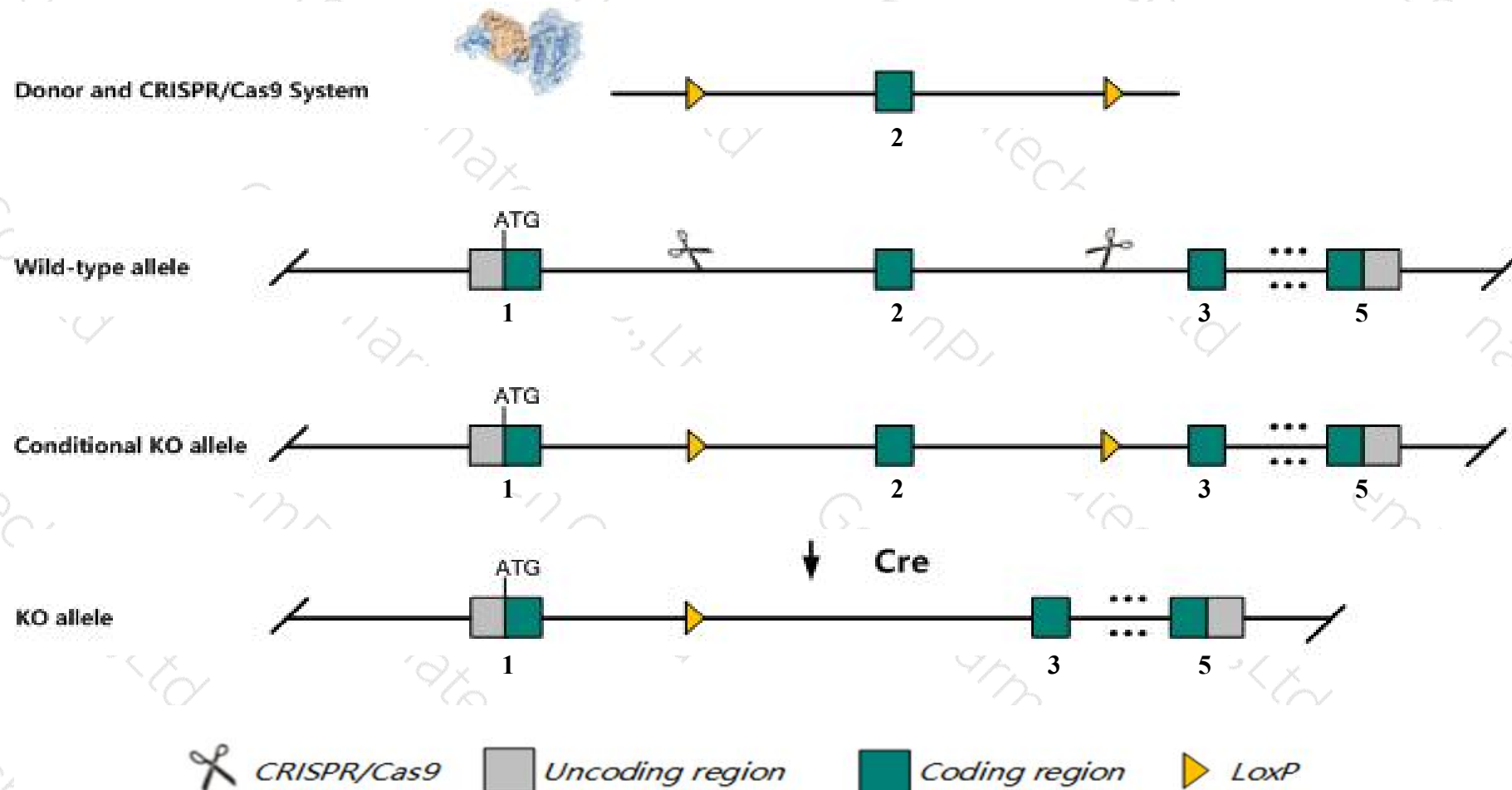|	
Project Name	*Fbxo28*
Project type	**Cas9-CKO**
Strain background	**C57BL/6JGpt**

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxo28* gene. The schematic diagram is as follows:

Technical routes

➢ The *Fbxo28* gene has 5 transcripts. According to the structure of *Fbxo28* gene, exon2 of *Fbxo28-201* (ENSMUST00000051431.9) transcript is recommended as the knockout region.The region contains Ens 110bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Fbxo28* 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.

Notice

➢ The *Fbxo28* gene is located on the Chr1. 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）

Fbxo28 F-box protein 28 [Mus musculus (house mouse)]

Gene ID: 67948, updated on 31-Jan-2019

Summary

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Official Symbol	Fbxo28 provided by MGI
Official Full Name	F-box protein 28 provided by MGI
Primary source	MGI:MGI:1261890
See related	Ensembl:ENSMUSG00000047539
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	4833428J17Rik, 5730505P19Rik, D1Ertd578e, Fbx28, mKIAA0483
Expression	Ubiquitous expression in whole brain E14.5 (RPKM 7.0), CNS E14 (RPKM 6.8) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxo28-201	ENSMUST00000051431.9	4925	368aa	Protein coding	CCDS15588	Q8BIG4	TSL:1 GENCODE basic APPRIS P1
Fbxo28-202	ENSMUST00000192544.5	1407	126aa	Nonsense mediated decay	-	A0A0A6YX52	TSL:5
Fbxo28-205	ENSMUST00000195061.5	781	143aa	Nonsense mediated decay	-	A0A0A6YX00	CDS 5' incomplete TSL:3
Fbxo28-204	ENSMUST00000194213.1	747	195aa	Nonsense mediated decay	-	A0A0A6YVQ6	TSL:3
Fbxo28-203	ENSMUST00000193700.1	2676	No protein	Retained intron	-	-	TSL:1

The strategy is based on the design of *Fbxo28-201* transcript,The transcription is shown below

< Fbxo28-201
protein coding

◄ Reverse strand

28.52 kb
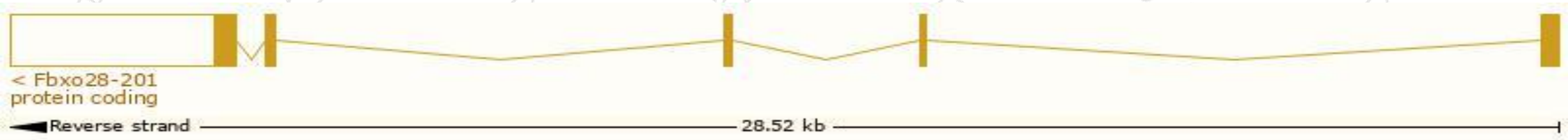
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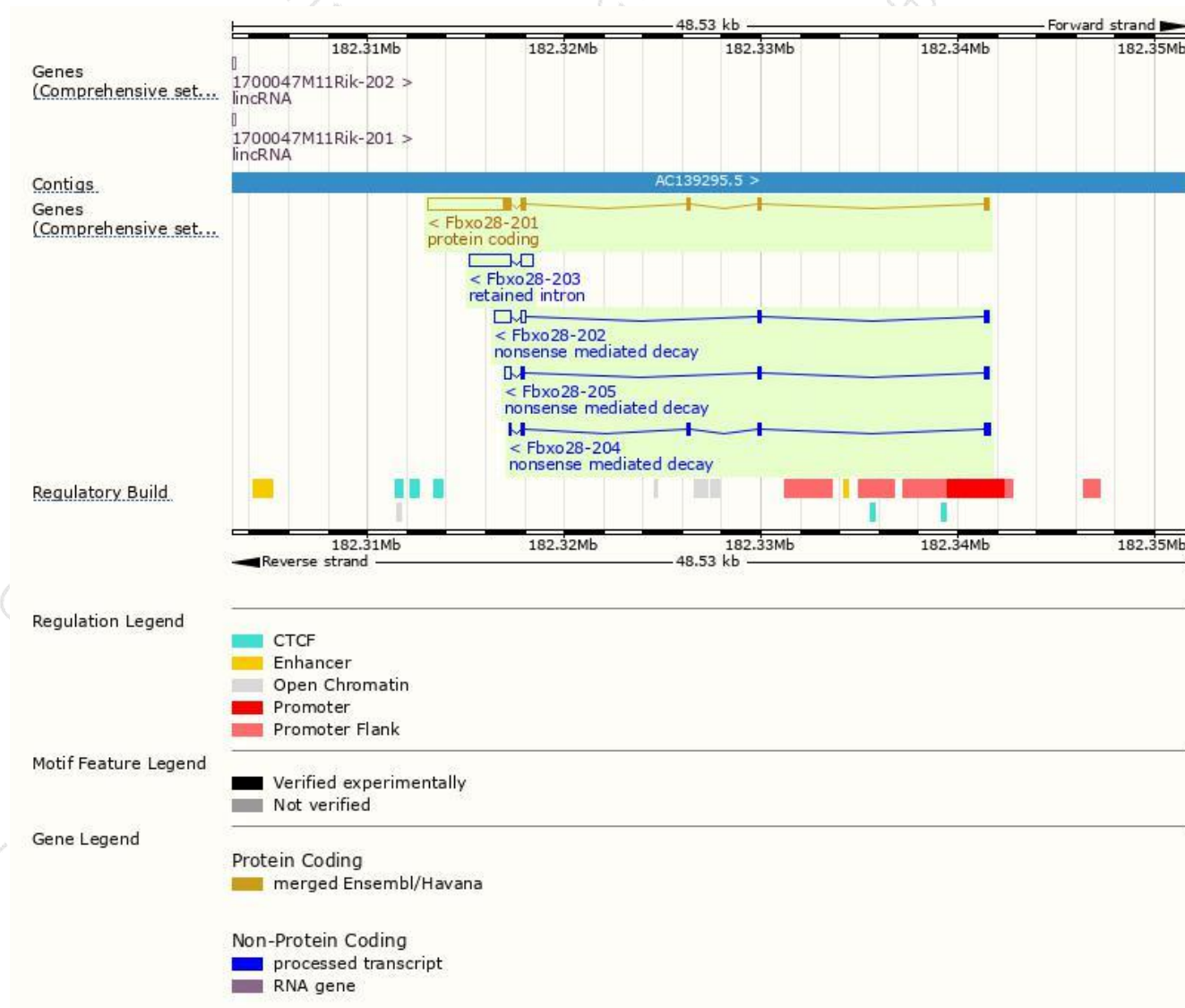
Protein domain
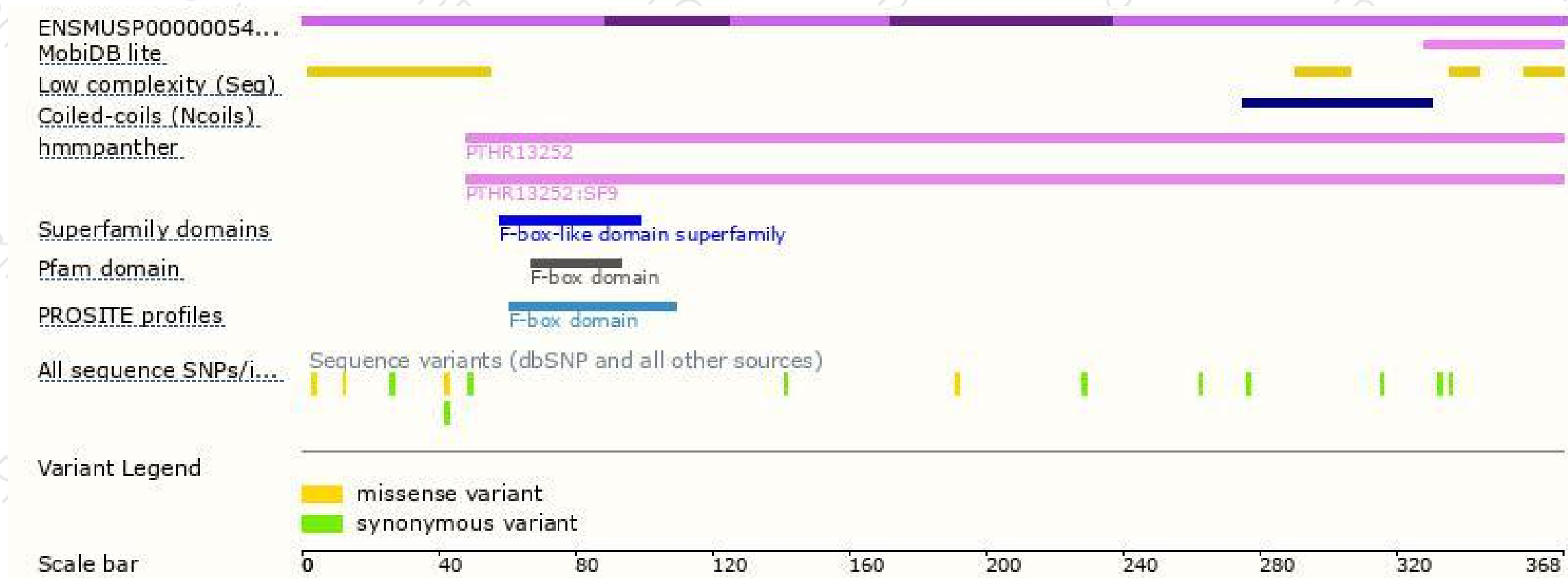
If you have any questions, you are welcome to inquire.
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