Fkbp15 Cas9-KO Strategy

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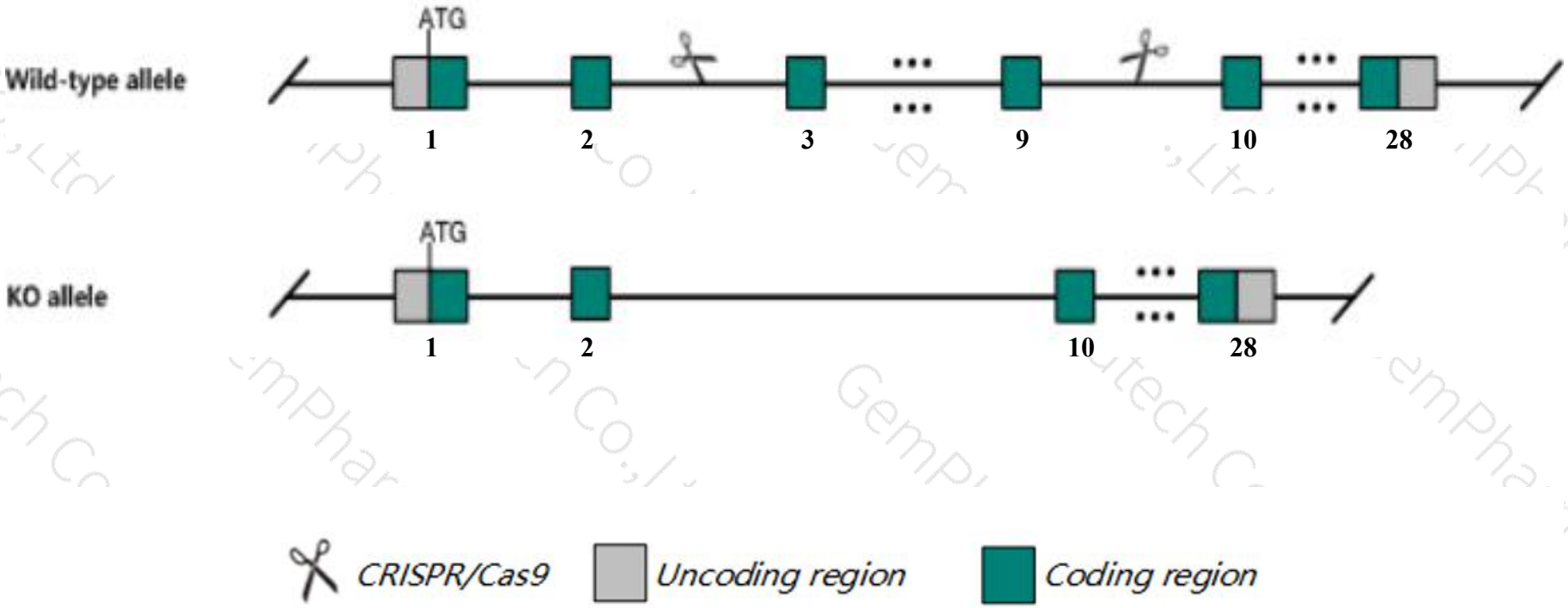
Project Overview

Project Name	***Fkbp15***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fkbp15* gene. The schematic diagram is as follows:



Technical routes

➢ The *Fkbp15* gene has 6 transcripts. According to the structure of *Fkbp15* gene, exon3-exon9 of *Fkbp15-201* (ENSMUST00000084527.9) transcript is recommended as the knockout region.The region contains 695bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Fkbp15* gene. The brief process is as follows: CRISPR/Cas9 syster

Notice

➢ The *Fkbp15* 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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Fkbp15 FK506 binding protein 15 [*Mus musculus* (house mouse)]

Gene ID: 338355, updated on 27-Feb-2020

Summary

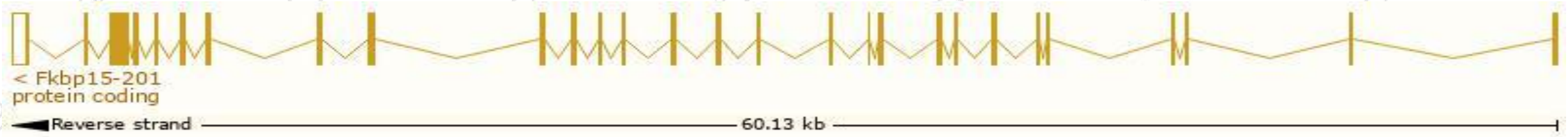
Official Symbol	Fkbp15 provided by MGI
Official Full Name	FK506 binding protein 15 provided by MGI
Primary source	MGI:MGI:2444782
See related	Ensembl:ENSMUSG00000066151
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	FKBO133; FKBP-15; FKBP133; BB131447; FKBP-133; mKIAA0674; C430014M02Rik
Expression	Ubiquitous expression in thymus adult (RPKM 9.8), lung adult (RPKM 9.4) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

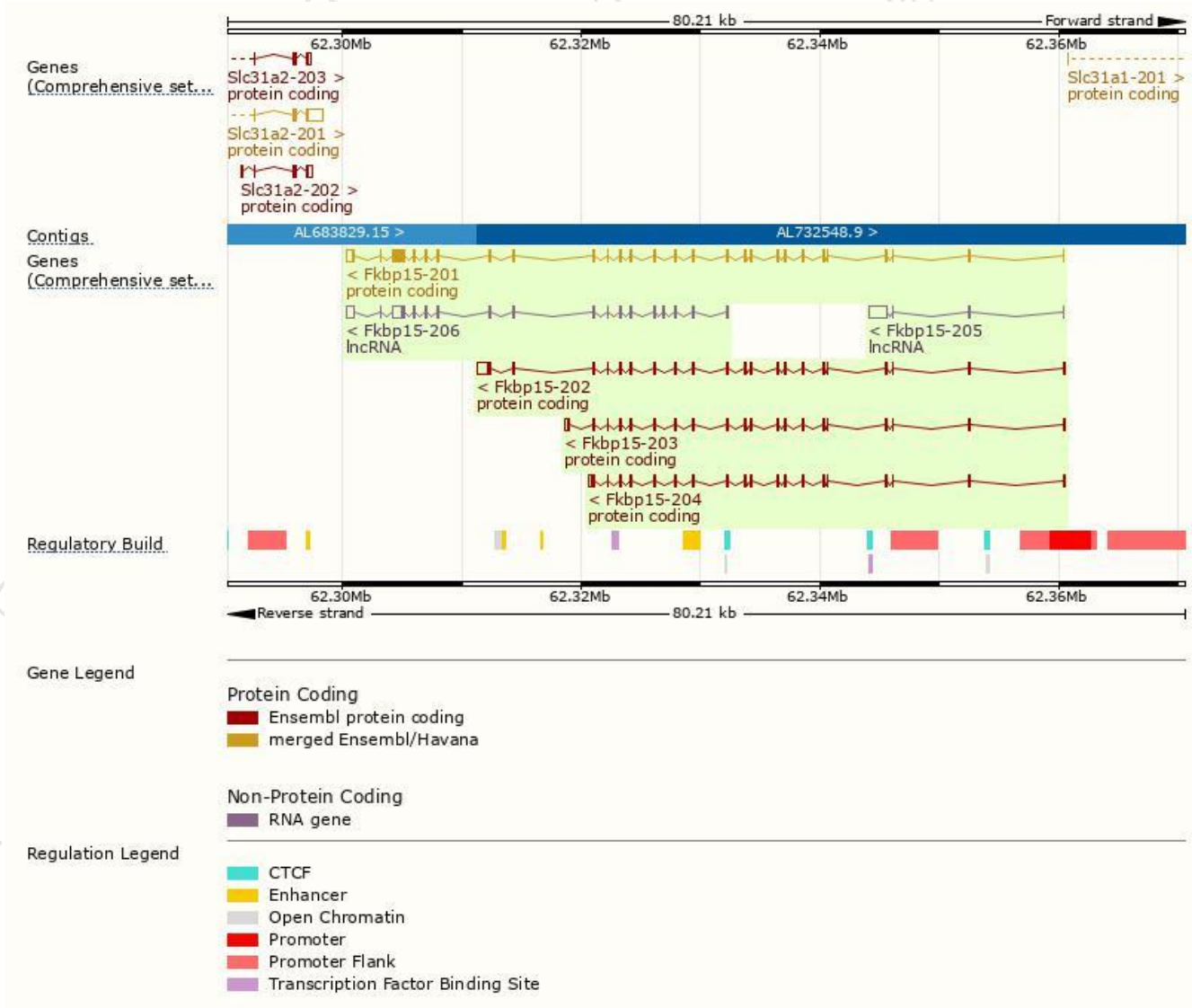
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fkbp15-201	ENSMUST00000084527.9	4264	1216aa	Protein coding	CCDS51201	Q6P9Q6	TSL:1 GENCODE basic APPRIS P2
Fkbp15-202	ENSMUST00000084528.9	3329	756aa	Protein coding	-	Q80YW9	TSL:1 GENCODE basic APPRIS ALT2
Fkbp15-204	ENSMUST00000107461.1	2337	650aa	Protein coding	-	Q80YW6	TSL:1 GENCODE basic APPRIS ALT2
Fkbp15-203	ENSMUST00000098033.9	2323	644aa	Protein coding	-	Q80YW7	TSL:1 GENCODE basic APPRIS ALT2
Fkbp15-206	ENSMUST00000139308.1	3279	No protein	lncRNA	-	-	TSL:1
Fkbp15-205	ENSMUST00000131977.1	1739	No protein	lncRNA	-	-	TSL:1

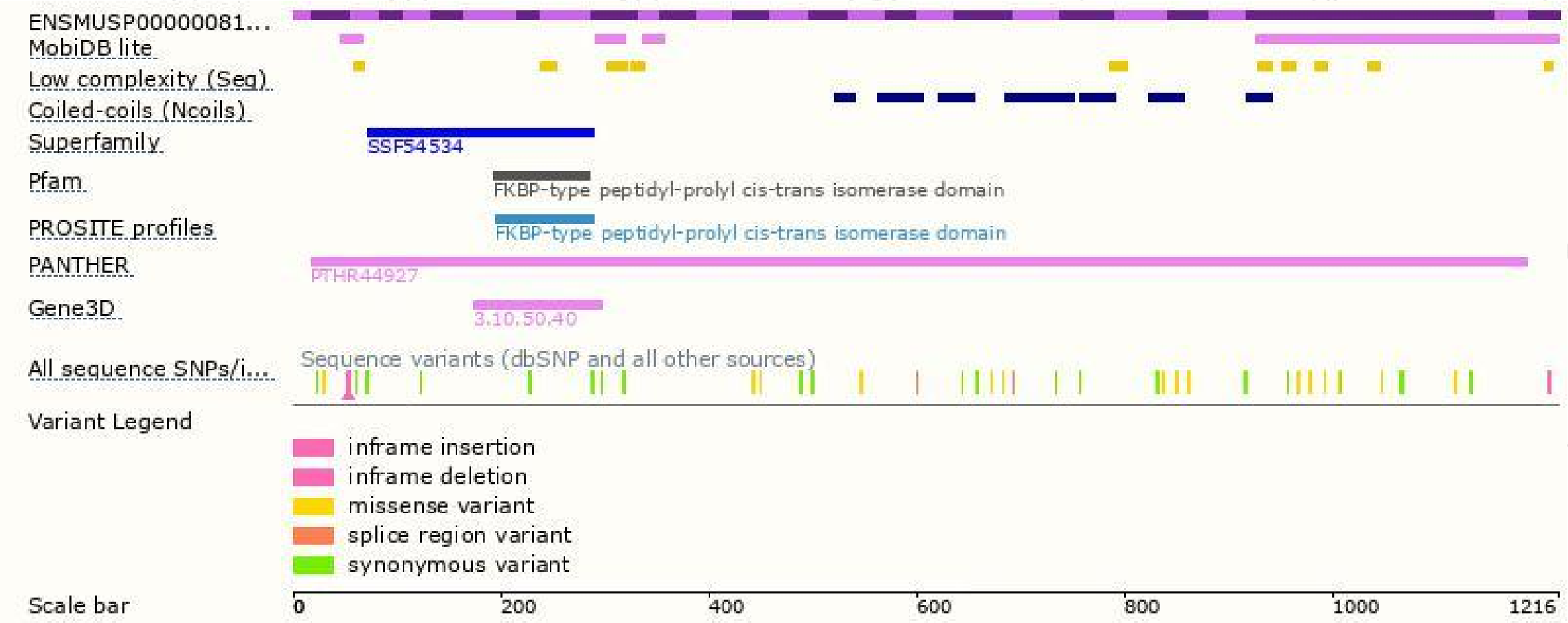
The strategy is based on the design of *Fkbp15-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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