

***Fkbp11* Cas9-KO Strategy**

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Project Overview

Project Name

Fkbp11

Project type

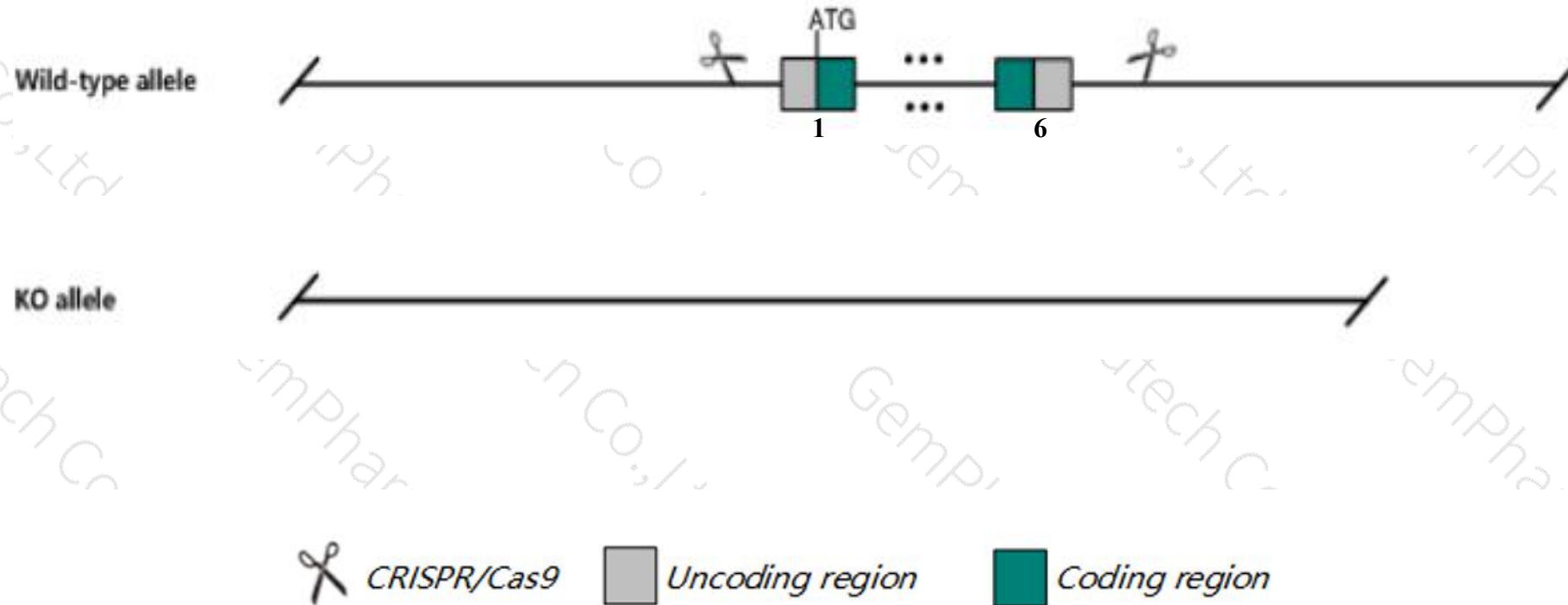
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fkbp11* gene. The schematic diagram is as follows:



- The *Fkbp11* gene has 3 transcripts. According to the structure of *Fkbp11* gene, exon1-exon6 of *Fkbp11-201* (ENSMUST00000003445.7) 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 *Fkbp11* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for disruptions of this gene display increased antibody response to antibody challenge and increased inflammatory responses. Measurements of bone density are also increased.
- The *Fkbp11* gene is located on the Chr15. 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)

Fkbp11 FK506 binding protein 11 [*Mus musculus* (house mouse)]

Gene ID: 66120, updated on 12-Aug-2019

Summary

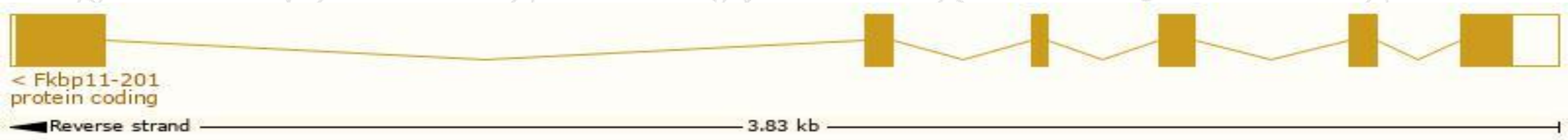
Official Symbol	Fkbp11 provided by MGI
Official Full Name	FK506 binding protein 11 provided by MGI
Primary source	MGI:MGI:1913370
See related	Ensembl:ENSMUSG00000003355
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	FKBP-11; 1110002O23Rik
Expression	Broad expression in liver E18 (RPKM 54.8), liver E14.5 (RPKM 27.3) and 16 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

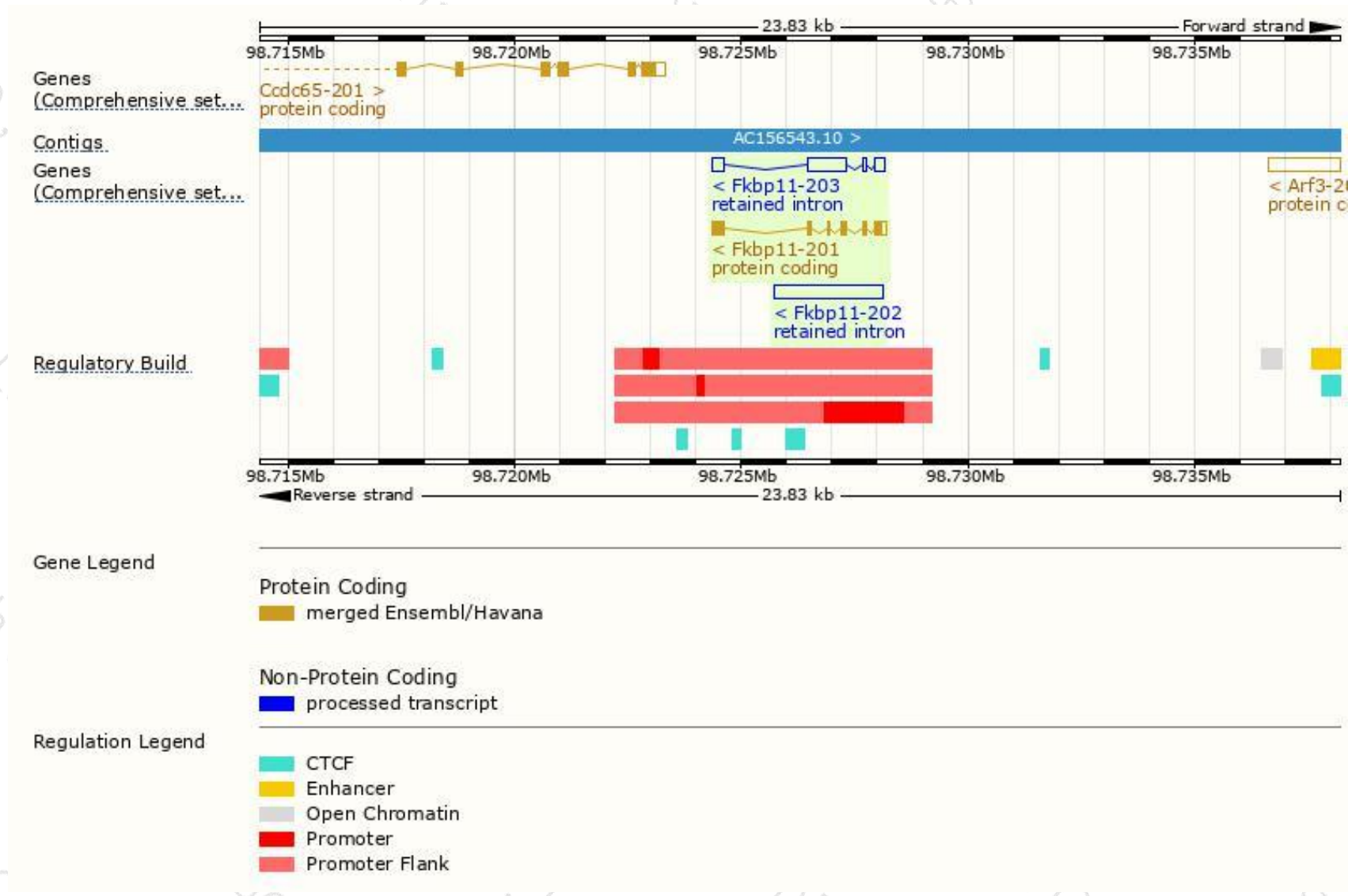
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fkbp11-201	ENSMUST00000003445.7	734	201aa	Protein coding	CCDS27803	Q9D1M7	TSL:1 GENCODE basic APPRIS P1
Fkbp11-202	ENSMUST00000229562.1	2411	No protein	Retained intron	-	-	
Fkbp11-203	ENSMUST00000230743.1	1314	No protein	Retained intron	-	-	

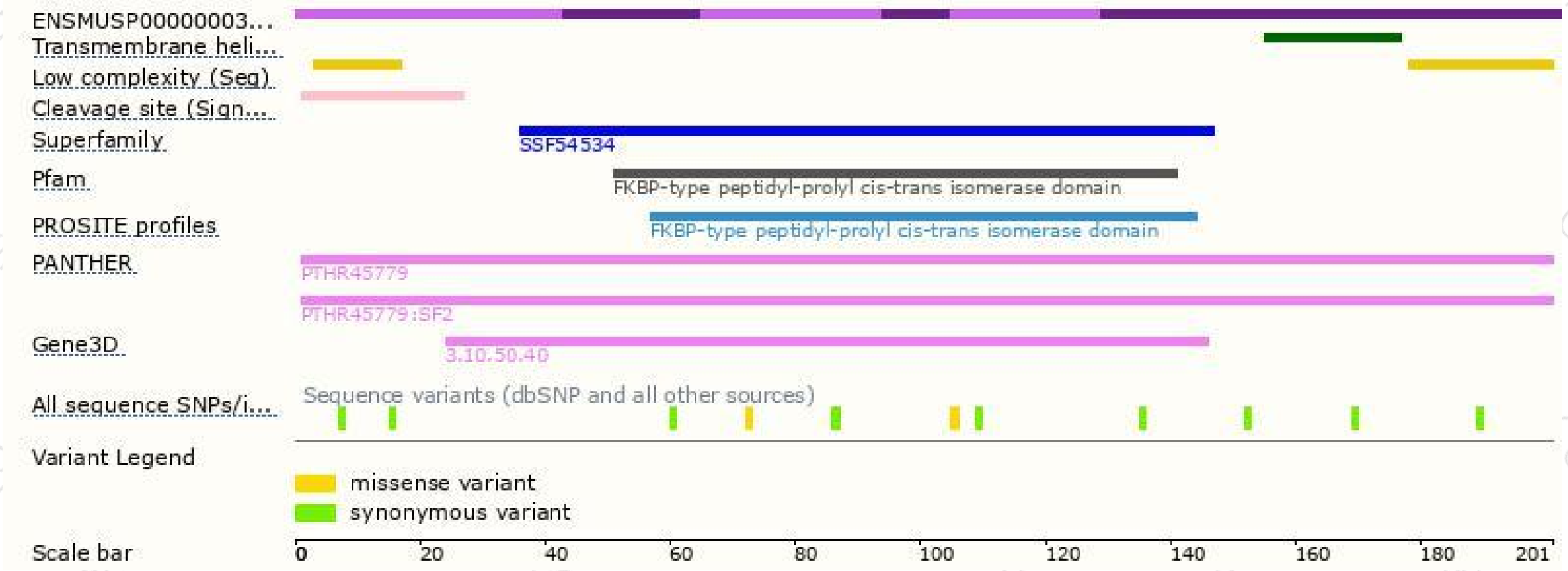
The strategy is based on the design of *Fkbp11-201* transcript,The transcription is shown below



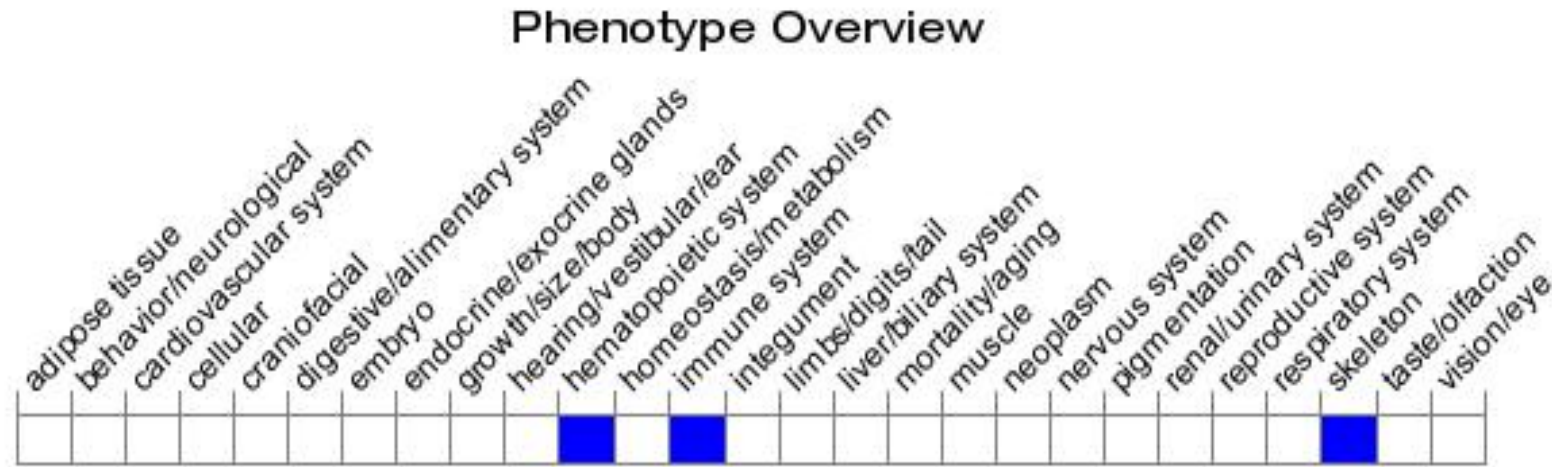
Genomic location distribution



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 disruptions of this gene display increased antibody response to antibody challenge and increased inflammatory responses. Measurements of bone density are also increased.

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

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