

Ppp1r3f Cas9-KO Strategy

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Project Overview

Project Name

Ppp1r3f

Project type

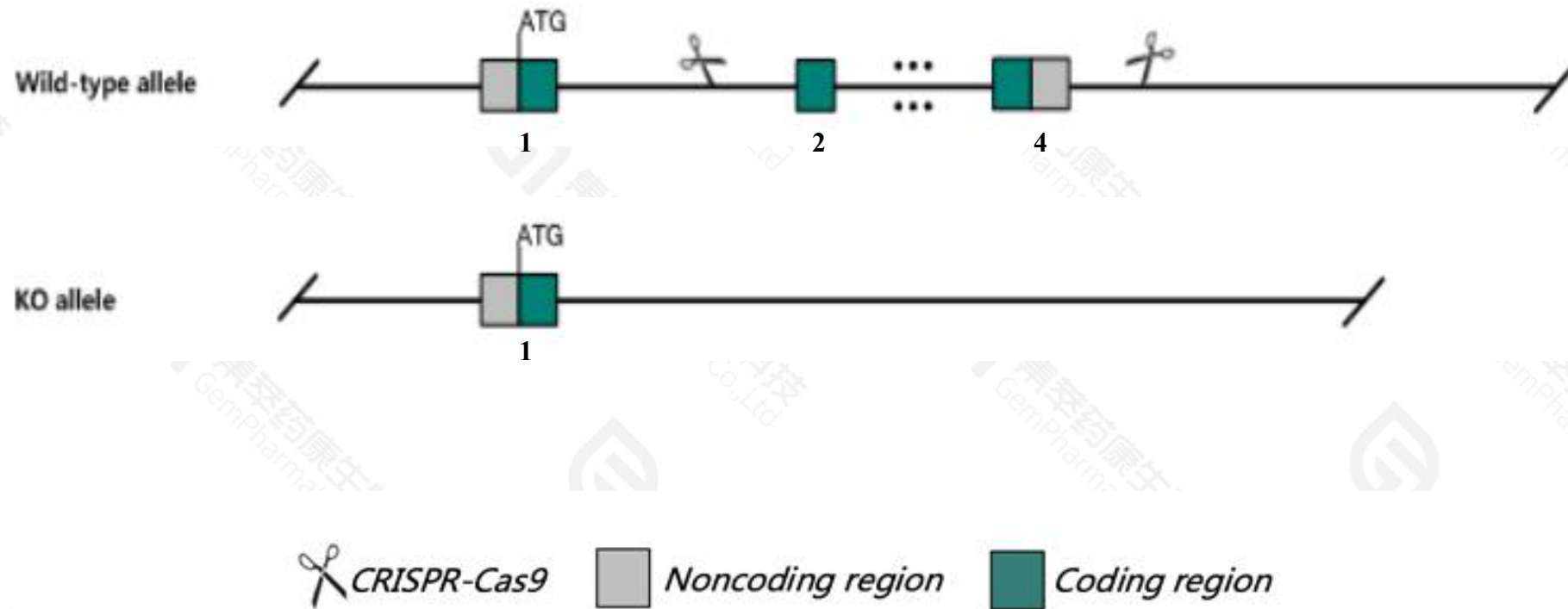
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR-Cas9 technology to edit the *Ppp1r3f* gene. The schematic diagram is as follows:



- The *Ppp1r3f* gene has 5 transcripts. According to the structure of *Ppp1r3f* gene, exon2-exon4 of *Ppp1r3f*-205(ENSMUST00000150787.8) transcript is recommended as the knockout region. The region contains 1402bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR-Cas9 technology to modify *Ppp1r3f* gene. The brief process is as follows: CRISPR-Cas9 system 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 *Ppp1r3f* gene is located on the ChrX. 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.
- The knockout region is close to the 5th end of the *Foxp3* gene , which may affect the regulation of this gene.
- The KO region contains the *Gm36995* gene. Knockout the region may affect the function of *Gm36995* gene
- 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)

Ppp1r3f protein phosphatase 1, regulatory subunit 3F [*Mus musculus* (house mouse)]

Gene ID: 54646, updated on 4-Feb-2022

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Summary

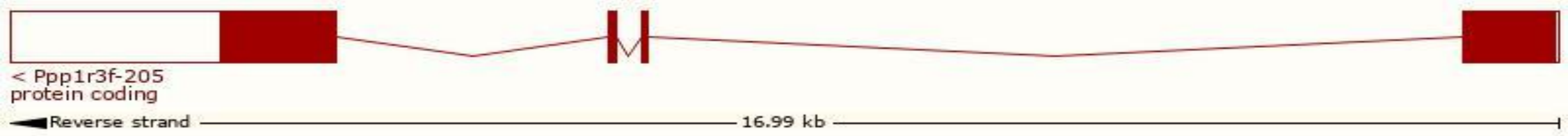
Official Symbol	Ppp1r3f provided by MGI
Official Full Name	protein phosphatase 1, regulatory subunit 3F provided by MGI
Primary source	MGI:MGI:1859617
See related	Ensembl:ENSMUSG00000039556 AllianceGenome:MGI:1859617
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	R3F; RF3; Sfc15; DXImx48e
Summary	Predicted to enable glycogen binding activity and protein phosphatase 1 binding activity. Predicted to be involved in regulation of glycogen biosynthetic process. Predicted to act upstream of or within regulation of glycogen (starch) synthase activity. Predicted to be located in membrane. Predicted to be part of protein phosphatase type 1 complex. Is expressed in left lung and right lung. Orthologous to human PPP1R3F (protein phosphatase 1 regulatory subunit 3F). [provided by Alliance of Genome Resources, Nov 2021]
Expression	Ubiquitous expression in cerebellum adult (RPKM 6.3), cortex adult (RPKM 5.4) and 27 other tissues See more
Orthologs	human all
NEW	Try the new Gene table
	Try the new Transcript table

Transcript information (Ensembl)

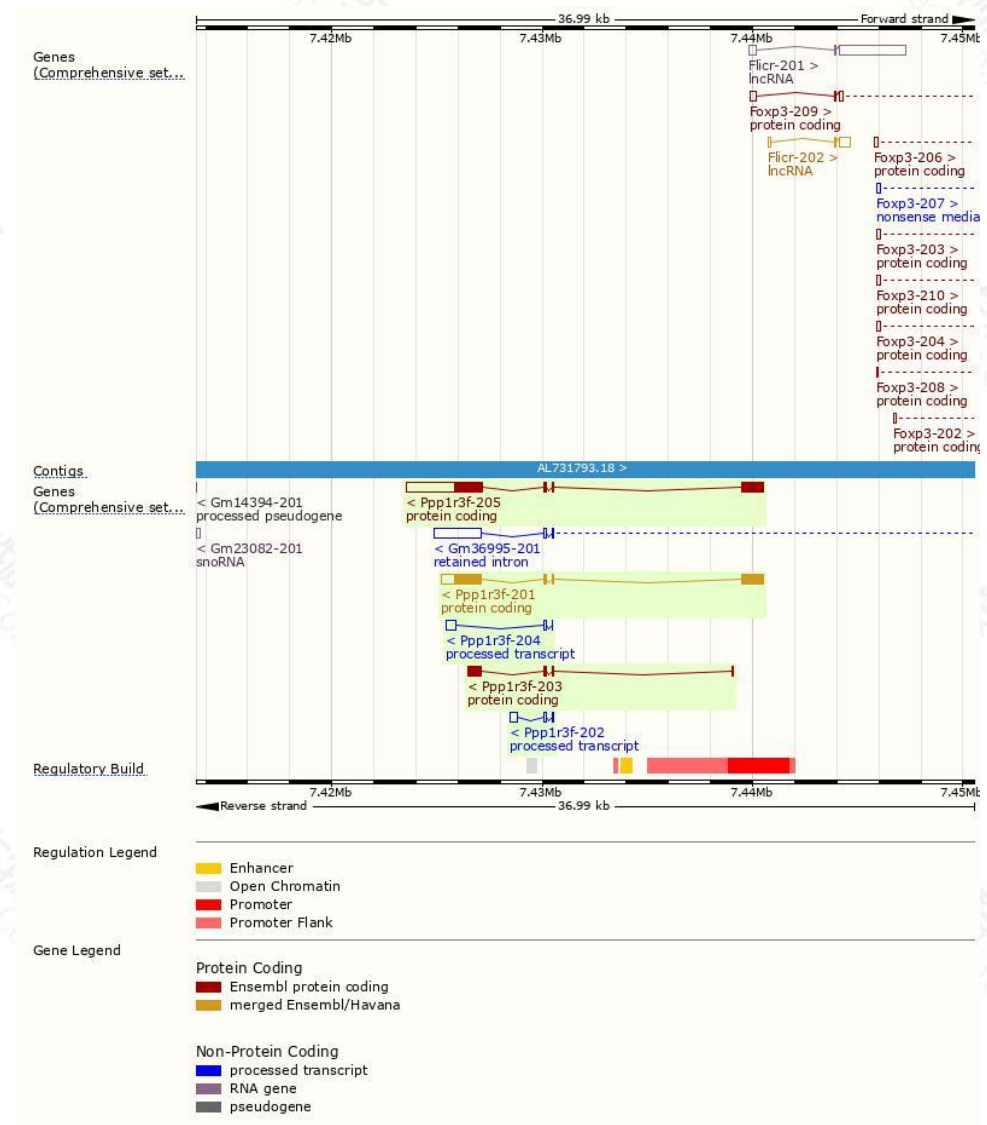
The gene has 5 transcripts,all transcripts are shown below:

Transcript ID	Name	bp	Protein	Biotype	CCDS	UniProt Match	Flags
ENSMUST00000115742.9	Ppp1r3f-201	3066	799aa	Protein coding	CCDS29964	Q9JIG4-1	GENCODE basic APPRIS P3 TSL:1
ENSMUST00000150787.8	Ppp1r3f-205	4760	800aa	Protein coding	CCDS72328	Q9JIG4-2	GENCODE basic APPRIS ALT2 TSL:1
ENSMUST00000132788.2	Ppp1r3f-203	815	272aa	Protein coding	-	F6RXH3	TSL:5 CDS 5' and 3' incomplete
ENSMUST00000142447.8	Ppp1r3f-204	526	No protein	Processed transcript	-	-	TSL:2
ENSMUST00000123090.3	Ppp1r3f-202	486	No protein	Processed transcript	-	-	TSL:3

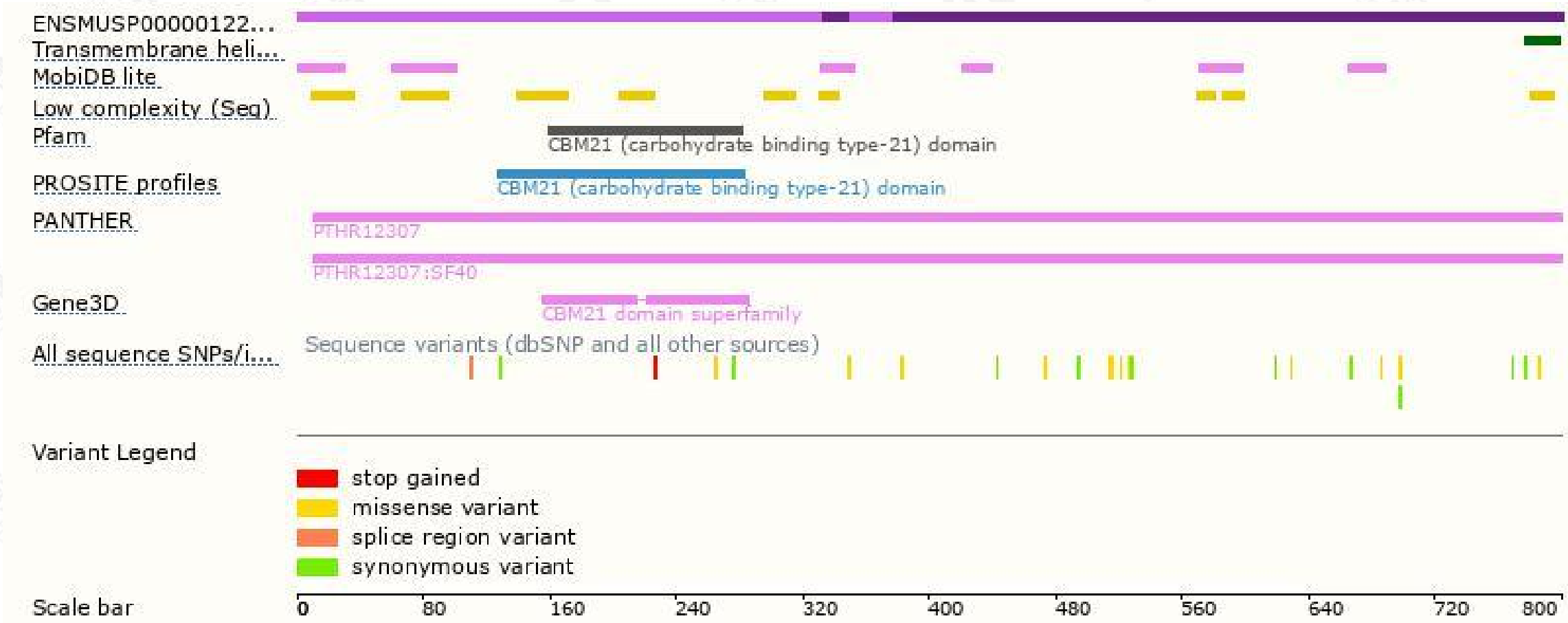
The strategy is based on the design of *Ppp1r3f-205* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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