

Tppp Cas9-KO Strategy

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Project Overview

Project Name

Tppp

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Tppp* gene has 2 transcripts. According to the structure of *Tppp* gene, exon2-exon4 of *Tppp-201* (ENSMUST00000022057.8) 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 *Tppp* gene. The brief process is as follows: CRISPR/Cas9 system v

- The *Tppp* gene is located on the Chr13. 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)

Tppp tubulin polymerization promoting protein [Mus musculus (house mouse)]

Gene ID: 72948, updated on 7-Apr-2019

Summary



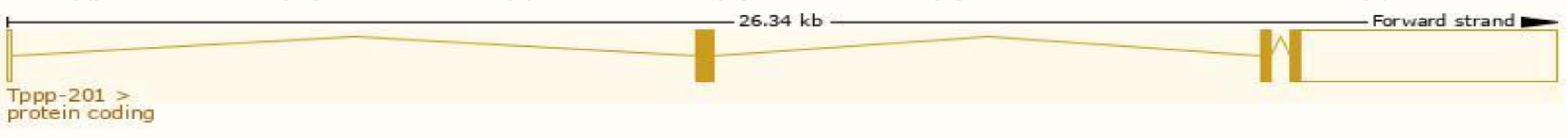
Official Symbol	Tppp provided by MGI
Official Full Name	tubulin polymerization promoting protein provided by MGI
Primary source	MGI:MGI:1920198
See related	Ensembl:ENSMUSG000000021573
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2900041A09Rik, A1849835
Expression	Biased expression in cortex adult (RPKM 75.7), frontal lobe adult (RPKM 53.9) and 10 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

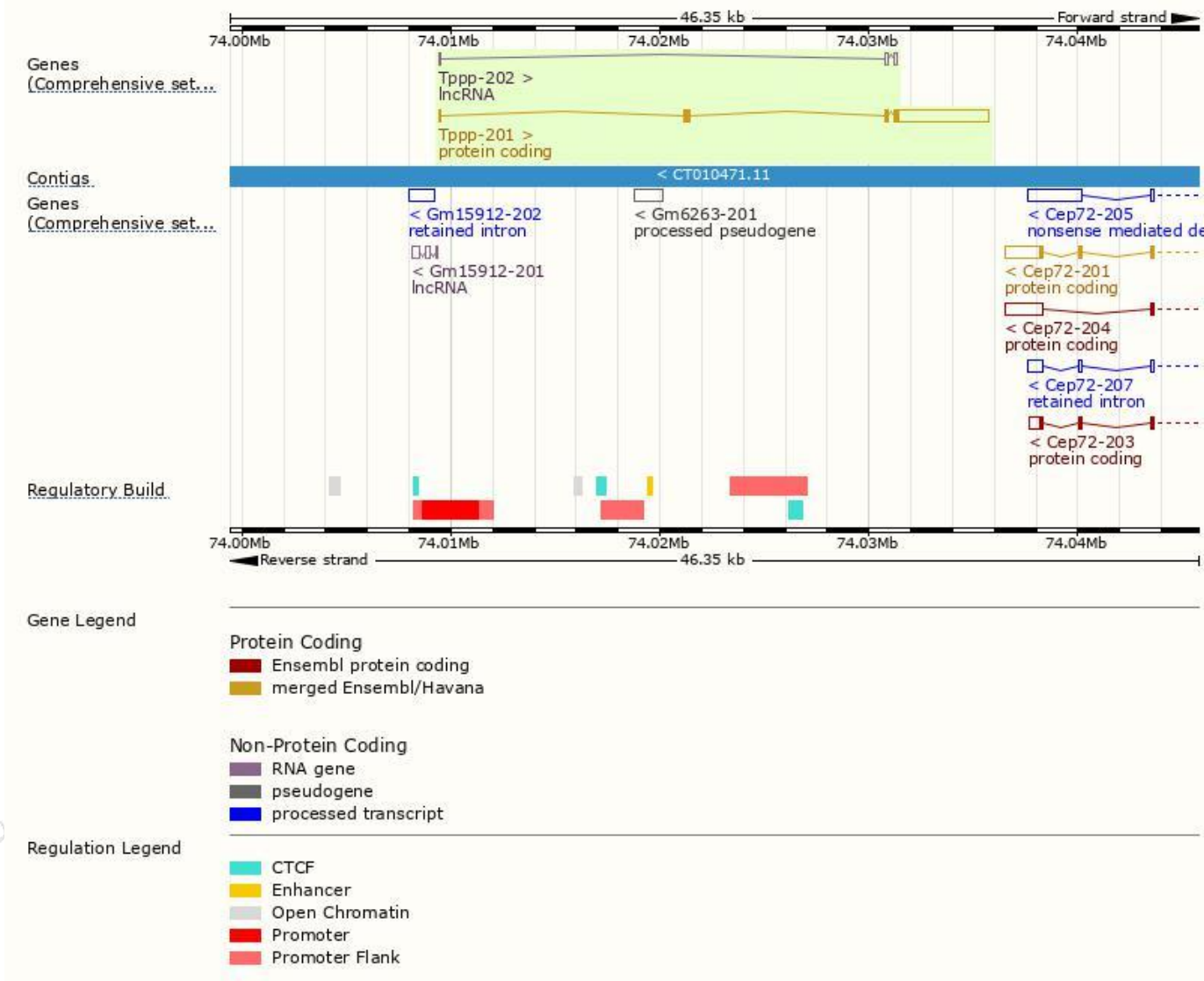
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Tppp-201	ENSMUST00000022057.8	5090	218aa	Protein coding	CCDS26638	Q3URG1 Q7TQD2	TSL:1 GENCODE basic APPRIS P1
Tppp-202	ENSMUST00000140217.7	408	No protein	lncRNA	-	-	TSL:3

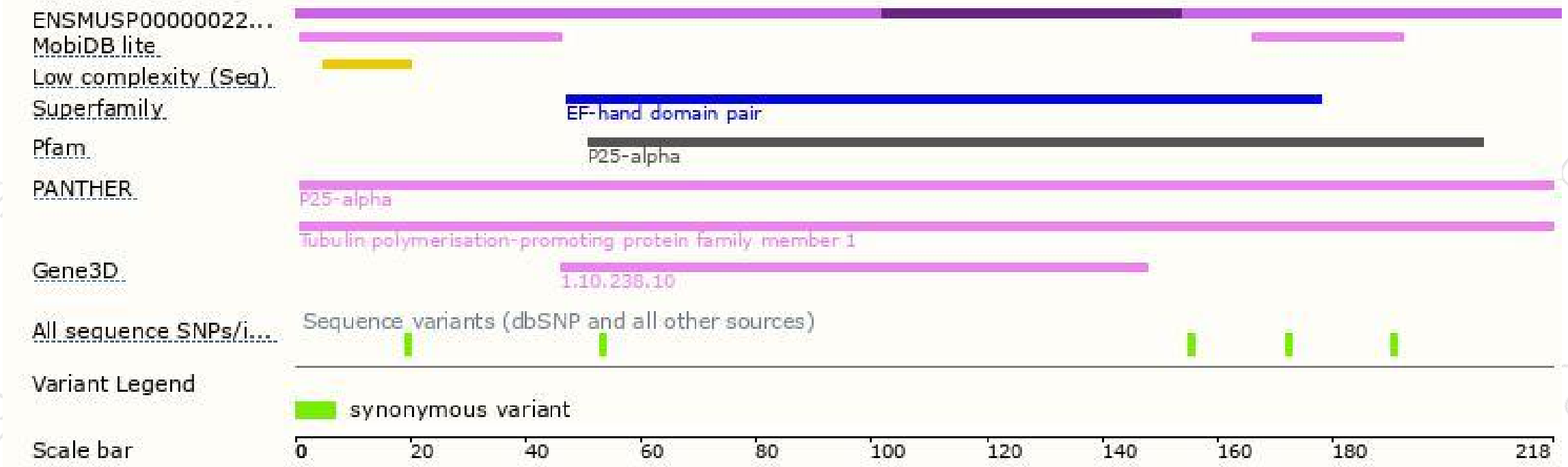
The strategy is based on the design of *Tppp-201* transcript,The transcription is shown below



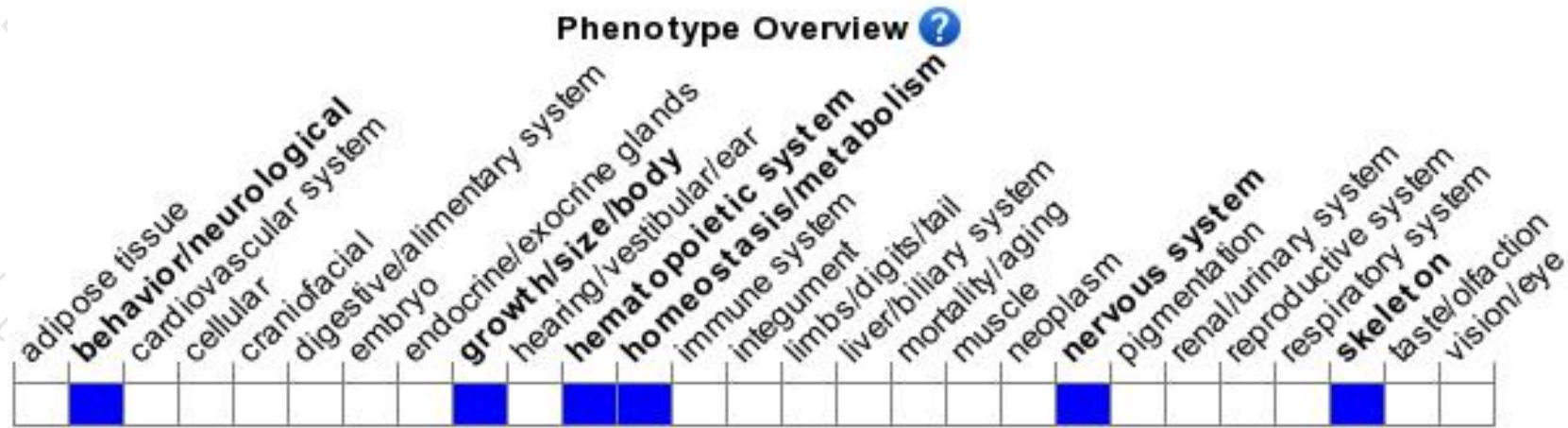
Genomic location distribution



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/>).

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

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