

Tardbp Cas9-KO Strategy

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Project Overview

Project Name

Tardbp

Project type

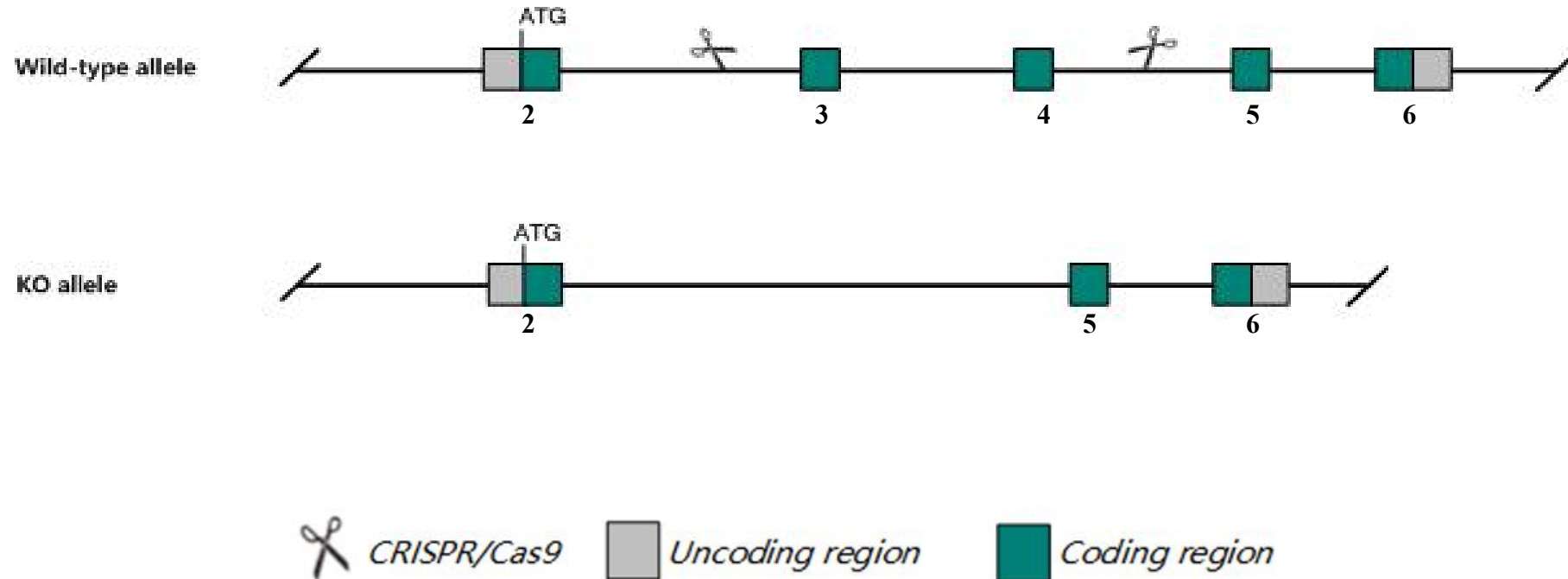
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



The *Tardbp* gene has 30 transcripts. According to the structure of *Tardbp* gene, exon3-exon4 of *Tardbp*-202 (ENSMUST00000084125.9) transcript is recommended as the knockout region. The region contains 305bp coding sequence. Knock out the region will result in disruption of protein function.

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

According to the existing MGI data, Homozygous deficient mice display embryonic lethality before somite formation with impaired inner cell mass proliferation.

The *Tardbp* 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.

Tardbp TAR DNA binding protein [Mus musculus (house mouse)]

Gene ID: 230908, updated on 19-Mar-2019

Summary

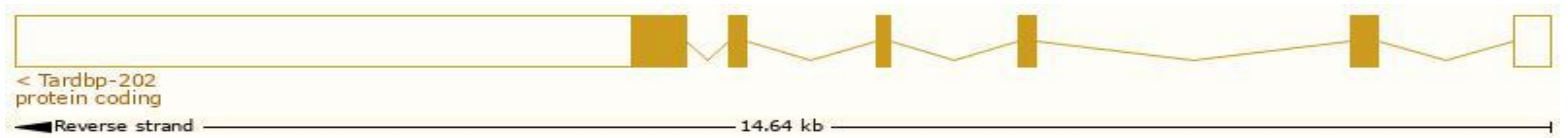


Official Symbol	Tardbp provided by MGI
Official Full Name	TAR DNA binding protein provided by MGI
Primary source	MGI:MGI:2387629
See related	Ensembl:ENSMUSG00000041459
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1190002A23Rik, C85084, TDP-43, Tdp43
Expression	Broad expression in CNS E11.5 (RPKM 74.5), limb E14.5 (RPKM 48.1) and 22 other tissues See more
Orthologs	human all

Transcript information Ensembl

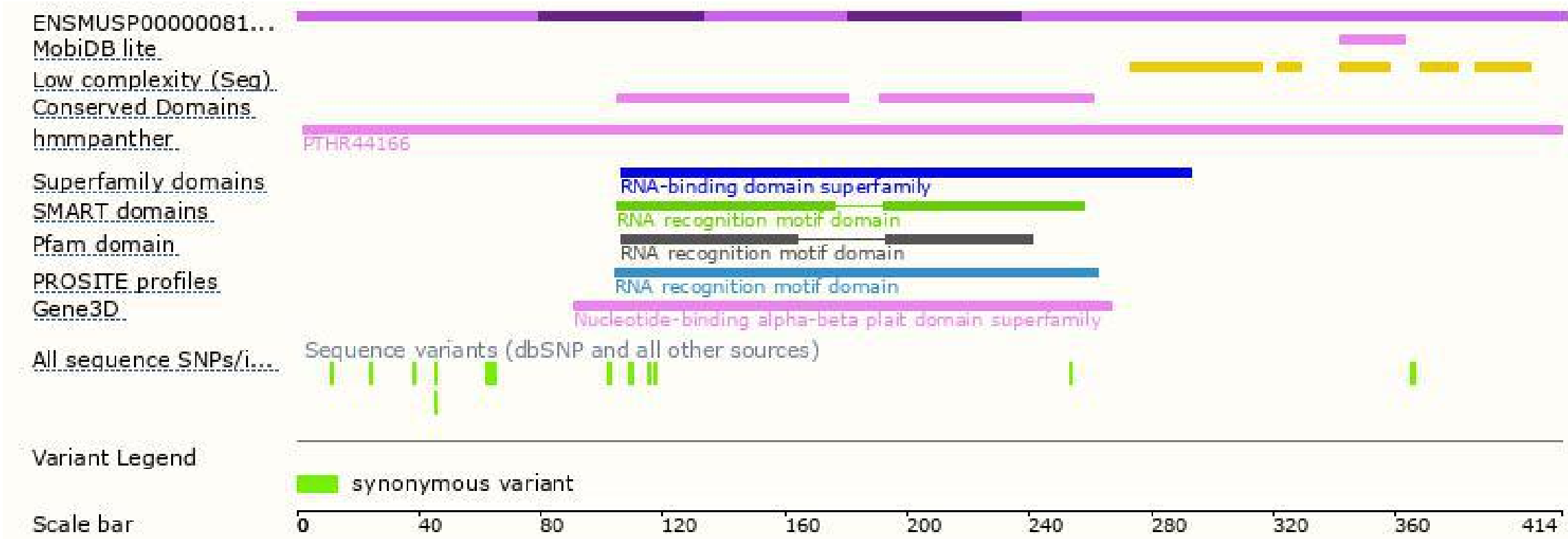
The gene has 30 transcripts, all transcripts are shown below:

The strategy is based on the design of *Tardbp-202* transcript, The transcription is shown below

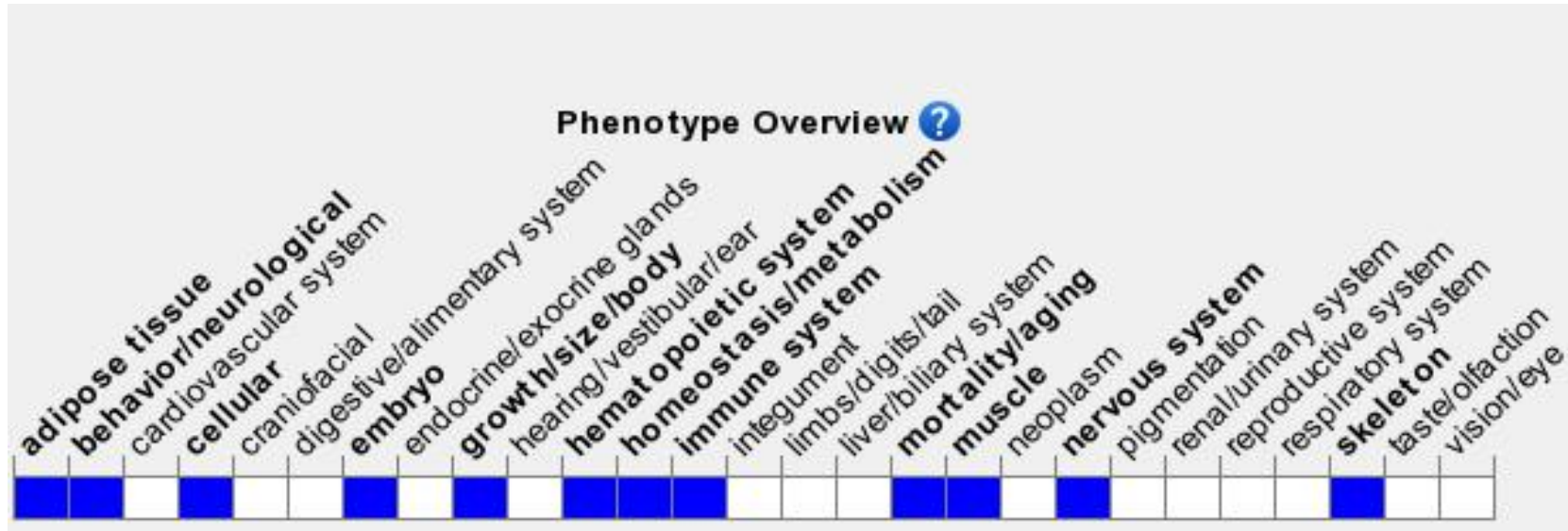


Genomic location distribution

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/>).

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