

# ***Trp53bp2* Cas9-KO Strategy**

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# Project Overview

**Project Name**

***Trp53bp2***

**Project type**

**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Trp53bp2* gene. The schematic diagram is as follows:



- The *Trp53bp2* gene has 3 transcripts. According to the structure of *Trp53bp2* gene, exon2 of *Trp53bp2-201* (ENSMUST00000117245.1) transcript is recommended as the knockout region. The region contains 148bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Trp53bp2* gene. The brief process is as follows: CRISPR/Cas9 sys

- According to the existing MGI data, Homozygous mutation is lethal by 30 days of age, although majority die embryonically. Heterozygotes show increased susceptibility to spontaneous and induced tumors of the lymphoma and sarcoma types
- The *Trp53bp2* gene is located on the Chr1. 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)

## Trp53bp2 transformation related protein 53 binding protein 2 [Mus musculus (house mouse)]

Gene ID: 209456, updated on 12-Mar-2019

### Summary



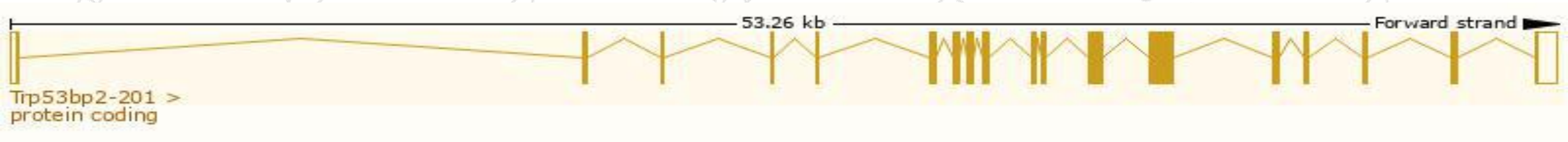
<b>Official Symbol</b>	Trp53bp2 provided by <a href="#">MGI</a>
<b>Official Full Name</b>	transformation related protein 53 binding protein 2 provided by <a href="#">MGI</a>
<b>Primary source</b>	<a href="#">MGI:MGI:2138319</a>
<b>See related</b>	<a href="#">Ensembl:ENSMUSG00000026510</a>
<b>Gene type</b>	protein coding
<b>RefSeq status</b>	VALIDATED
<b>Organism</b>	<a href="#">Mus musculus</a>
<b>Lineage</b>	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
<b>Also known as</b>	53BP2, A1746547, ASPP2, PPP1R13A, Tp53bp2, X98550
<b>Expression</b>	Ubiquitous expression in lung adult (RPKM 11.1), CNS E11.5 (RPKM 10.0) and 28 other tissues <a href="#">See more</a>
<b>Orthologs</b>	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

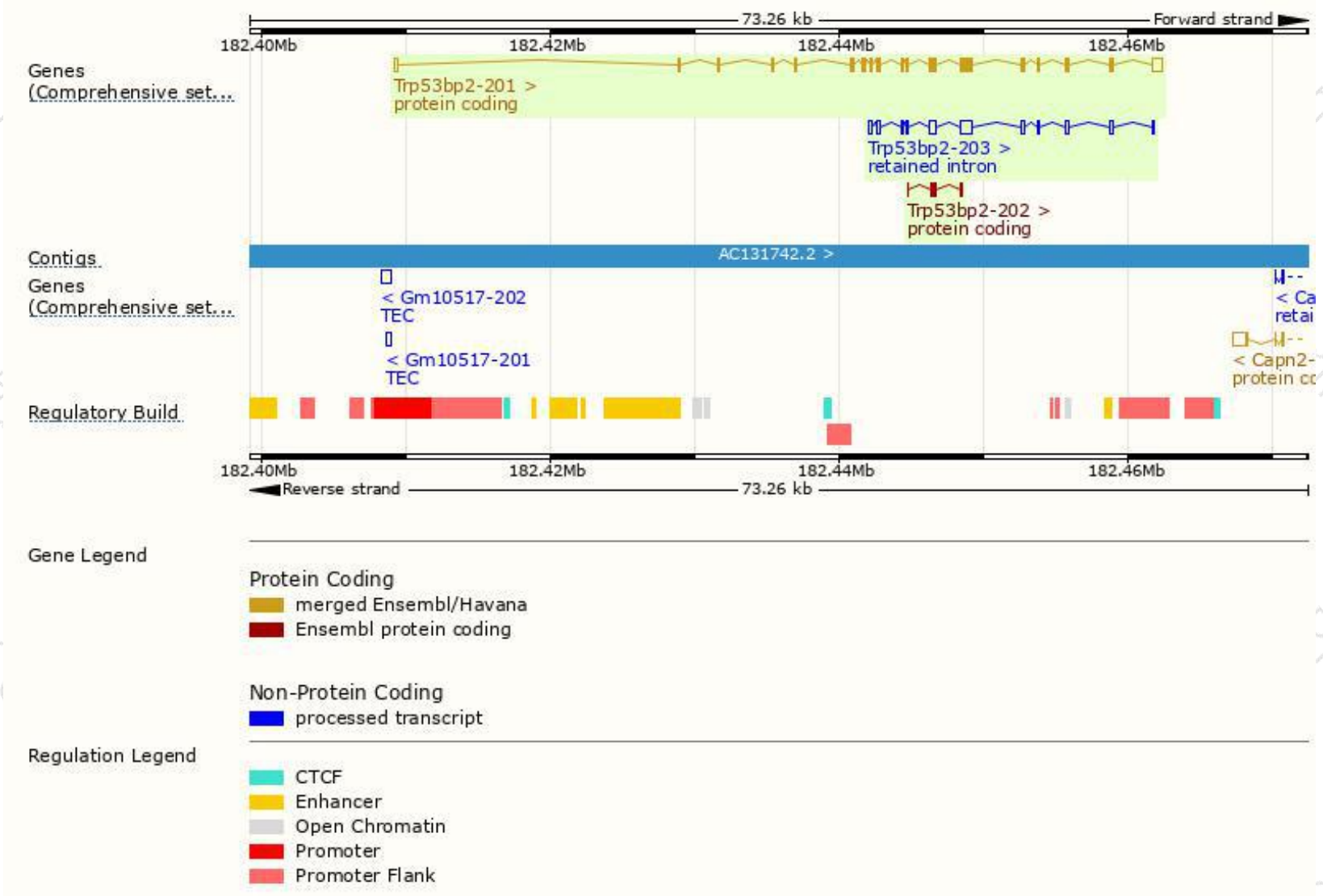
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Trp53bp2-201	<a href="#">ENSMUST00000117245.1</a>	4361	<a href="#">1134aa</a>	Protein coding	<a href="#">CCDS48476</a>	<a href="#">E9QJU8</a>	TSL:5 GENCODE basic APPRIS P1
Trp53bp2-202	<a href="#">ENSMUST00000191626.1</a>	568	<a href="#">189aa</a>	Protein coding	-	<a href="#">A0A0A6YX89</a>	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:3
Trp53bp2-203	<a href="#">ENSMUST00000191804.1</a>	2685	No protein	Retained intron	-	-	TSL:1

The strategy is based on the design of *Trp53bp2-201* transcript,The transcription is shown below



# Genomic location distribution

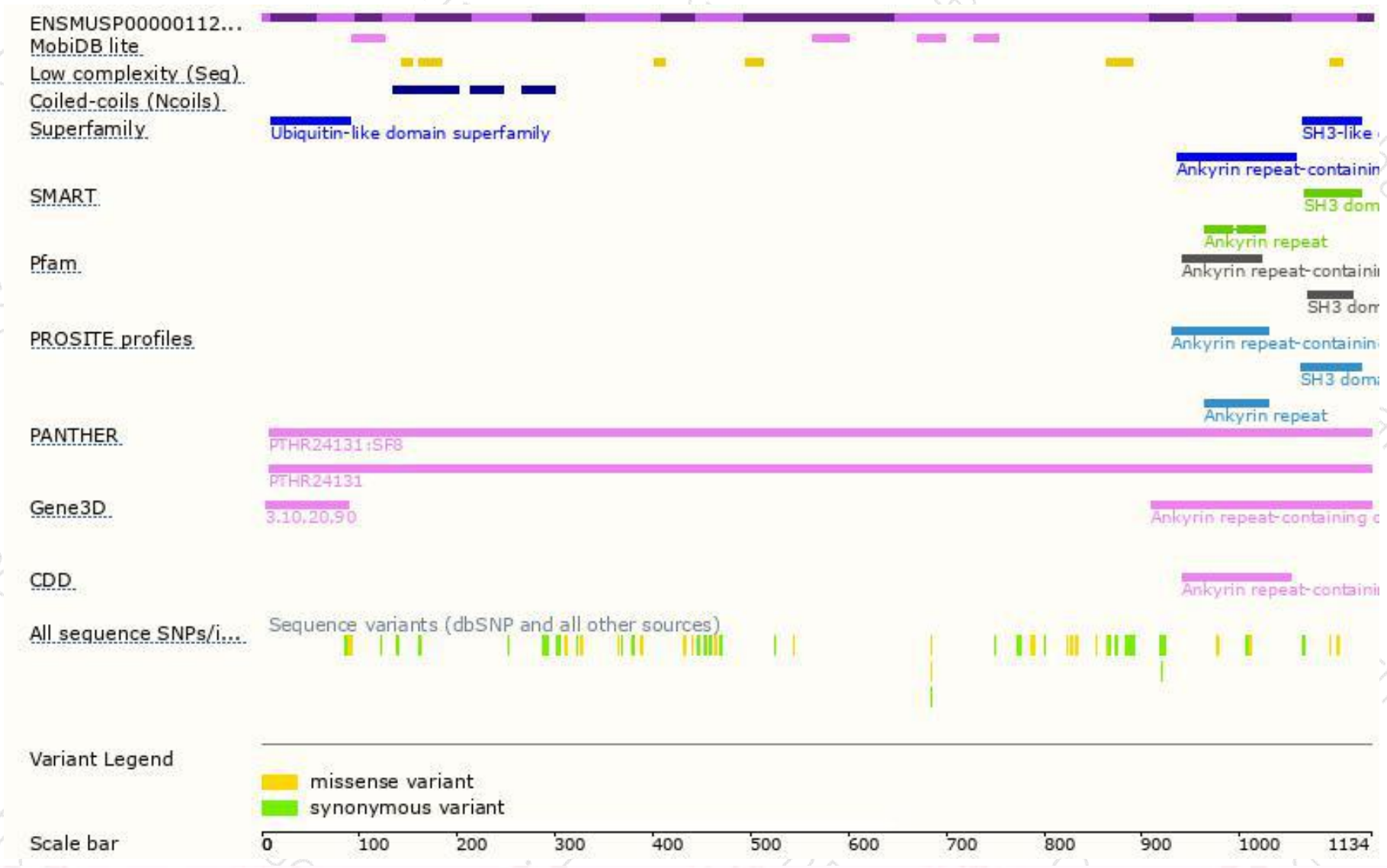




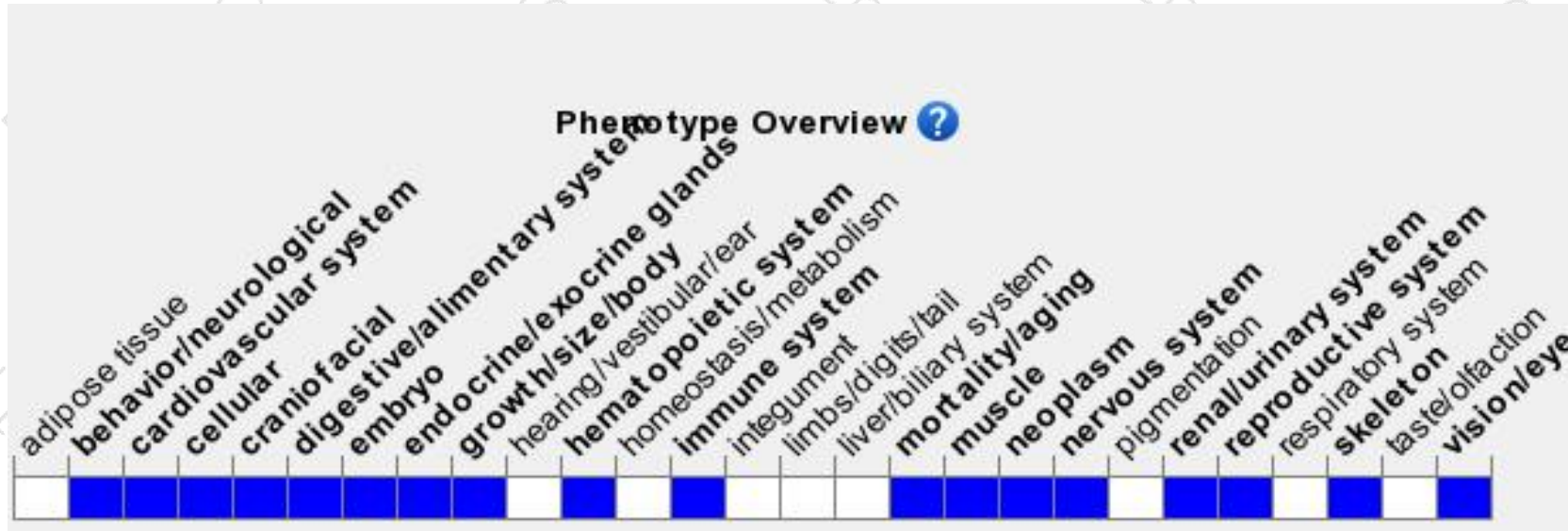
# Protein domain



集萃药康  
GemPharmatech



# 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, Homozygous mutation is lethal by 30 days of age, although majority die embryonically. Heterozygotes show increased susceptibility to spontaneous and induced tumors of the lymphoma and sarcoma.

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

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