

# *Wipi2* Cas9-KO Strategy

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# Project Overview

**Project Name**

*Wipi2*

**Project type**

**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wipi2* gene. The schematic diagram is as follows:



- The *Wipi2* gene has 5 transcripts. According to the structure of *Wipi2* gene, exon2 of *Wipi2-201* (ENSMUST00000036872.15) transcript is recommended as the knockout region. The region contains 83bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wipi2* gene. The brief process is as follows: gRNA was transcribed in vitro. Cas9 and gRNA 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 *Wipi2* gene is located on the Chr5. 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)

## Wipi2 WD repeat domain, phosphoinositide interacting 2 [ *Mus musculus* (house mouse) ]

Gene ID: 74781, updated on 31-Jan-2019

### Summary

Official Symbol	Wipi2 provided by <a href="#">MGI</a>
Official Full Name	WD repeat domain, phosphoinositide interacting 2 provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:1923831</a>
See related	<a href="#">Ensembl:ENSMUSG00000029578</a>
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	<a href="#">Mus musculus</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110018O08Rik; 2510001I10Rik
Expression	Ubiquitous expression in ovary adult (RPKM 25.2), adrenal adult (RPKM 22.3) and 28 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

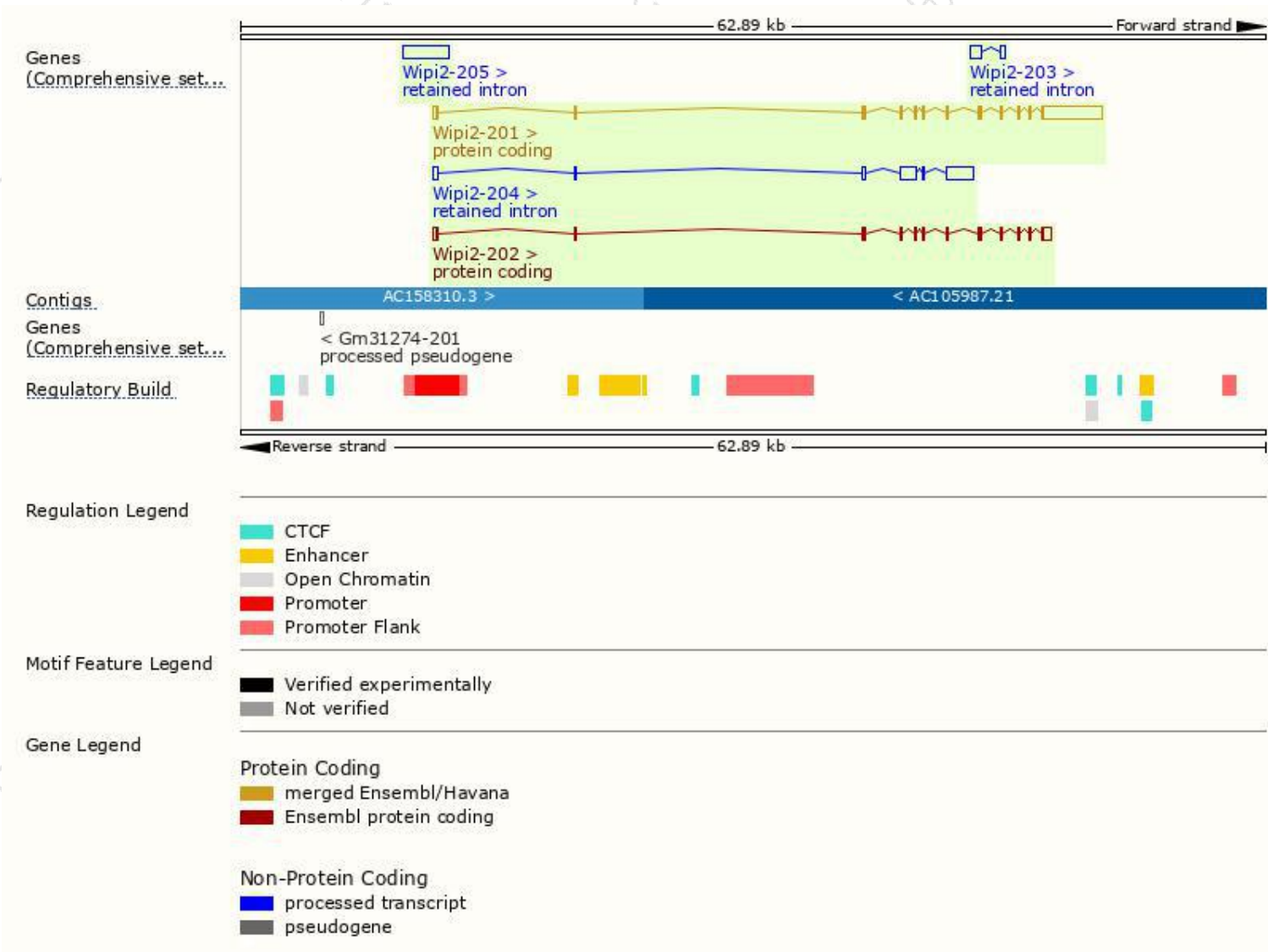
The gene has 5 transcripts,all transcripts are shown below:

Show/hide columns (1 hidden)							Filter	
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags	
Wipi2-205	<a href="#">ENSMUST00000197864.1</a>	2793	No protein	Retained intron	-	-	TSL:NA	
Wipi2-204	<a href="#">ENSMUST00000153936.1</a>	3244	No protein	Retained intron	-	-	TSL:1	
Wipi2-203	<a href="#">ENSMUST00000143980.1</a>	949	No protein	Retained intron	-	-	TSL:2	
Wipi2-202	<a href="#">ENSMUST00000110778.1</a>	1959	<a href="#">425aa</a>	Protein coding	-	<a href="#">D3YWK1</a>	TSL:5	GENCODE basic APPRIS P1
Wipi2-201	<a href="#">ENSMUST00000036872.15</a>	5171	<a href="#">445aa</a>	Protein coding	<a href="#">CCDS19828</a>	<a href="#">Q80W47</a>	TSL:1	GENCODE basic

The strategy is based on the design of *Wipi2-201* transcript,The transcription is shown below

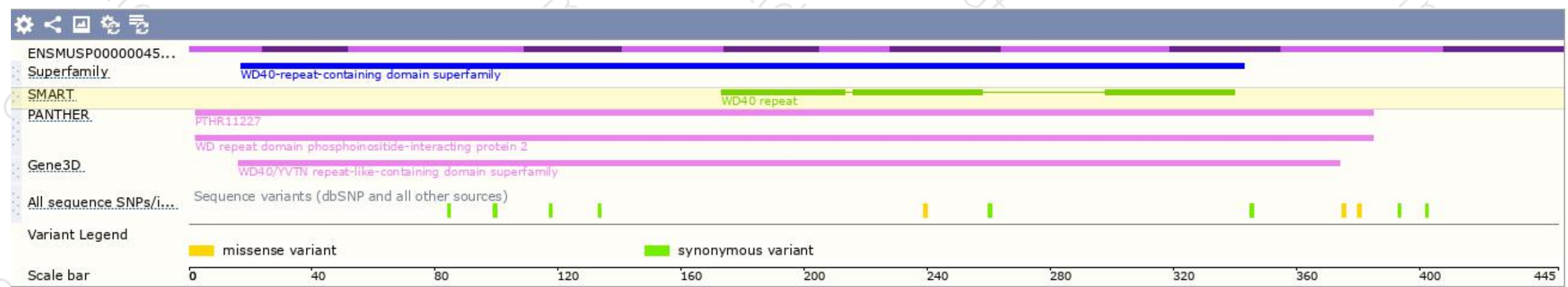


# Genomic location distribution





# Protein domain



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

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