

# ***Fbxl2* Cas9-KO Strategy**

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# Project Overview

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**Project Name**

***Fbxl2***

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**Project type**

**Cas9-KO**

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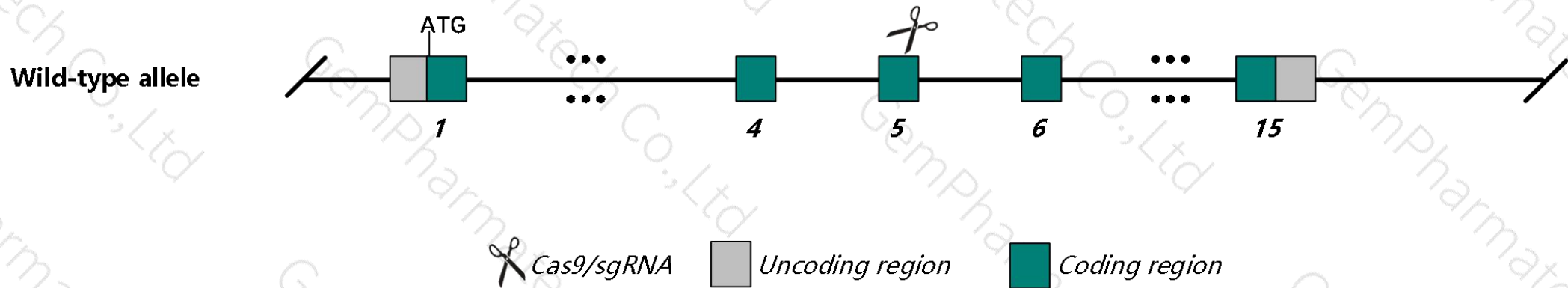
**Strain background**

**C57BL/6N**

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# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxl2* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Fbxl2* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6N 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/6N mice.

- The *Fbxl2* gene is located on the Chr9. 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)

## Fbxl2 F-box and leucine-rich repeat protein 2 [ *Mus musculus* (house mouse) ]

Gene ID: 72179, updated on 12-Aug-2019

### Summary

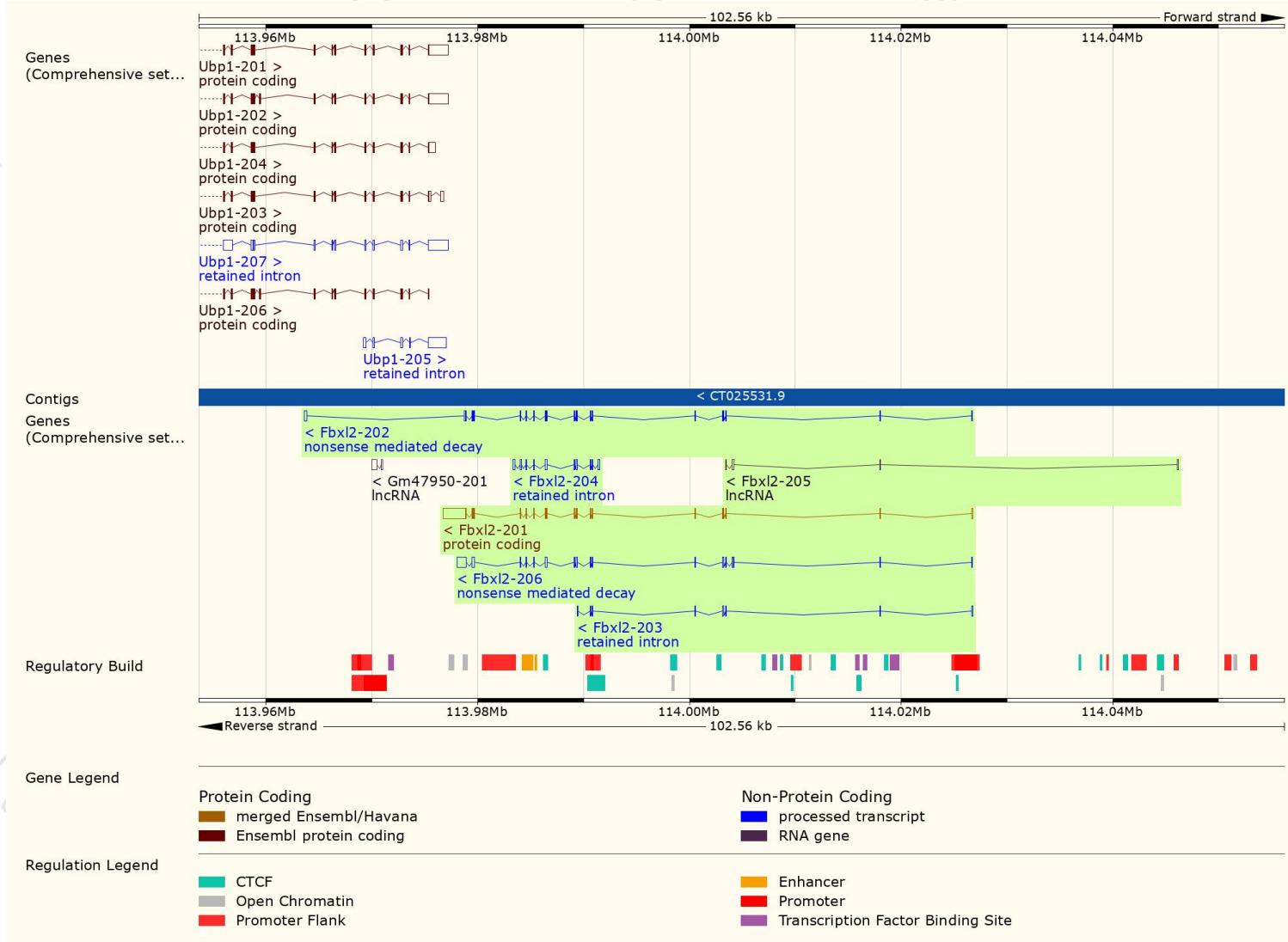
Official Symbol	Fbxl2 provided by MGI
Official Full Name	F-box and leucine-rich repeat protein 2 provided by MGI
Primary source	<a href="#">MGI:MGI:1919429</a>
See related	<a href="#">Ensembl:ENSMUSG00000032507</a>
Gene type	protein coding
RefSeq status	VALIDATED
Organism	<a href="#">Mus musculus</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Fbl3; 2810423A21Rik
Expression	Broad expression in cortex adult (RPKM 11.6), CNS E18 (RPKM 10.1) and 24 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxl2-201	<a href="#">ENSMUST00000035090.13</a>	3464	<a href="#">423aa</a>	Protein coding	<a href="#">CCDS40790</a>	<a href="#">Q4VA21</a> <a href="#">Q8BH16</a>	TSL:1 GENCODE basic APPRIS P1
Fbxl2-202	<a href="#">ENSMUST00000117537.7</a>	1620	<a href="#">423aa</a>	Nonsense mediated decay	<a href="#">CCDS40790</a>	<a href="#">Q4VA21</a> <a href="#">Q8BH16</a>	TSL:2
Fbxl2-206	<a href="#">ENSMUST00000143180.7</a>	2257	<a href="#">39aa</a>	Nonsense mediated decay	-	<a href="#">D6RFC8</a>	TSL:1
Fbxl2-204	<a href="#">ENSMUST00000139757.7</a>	1101	No protein	Retained intron	-	-	TSL:1
Fbxl2-203	<a href="#">ENSMUST00000127352.7</a>	615	No protein	Retained intron	-	-	TSL:3
Fbxl2-205	<a href="#">ENSMUST00000141832.1</a>	394	No protein	lncRNA	-	-	TSL:5

# Genomic location distribution





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

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