

Gabarapl2 Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Gabarapl2

Project type

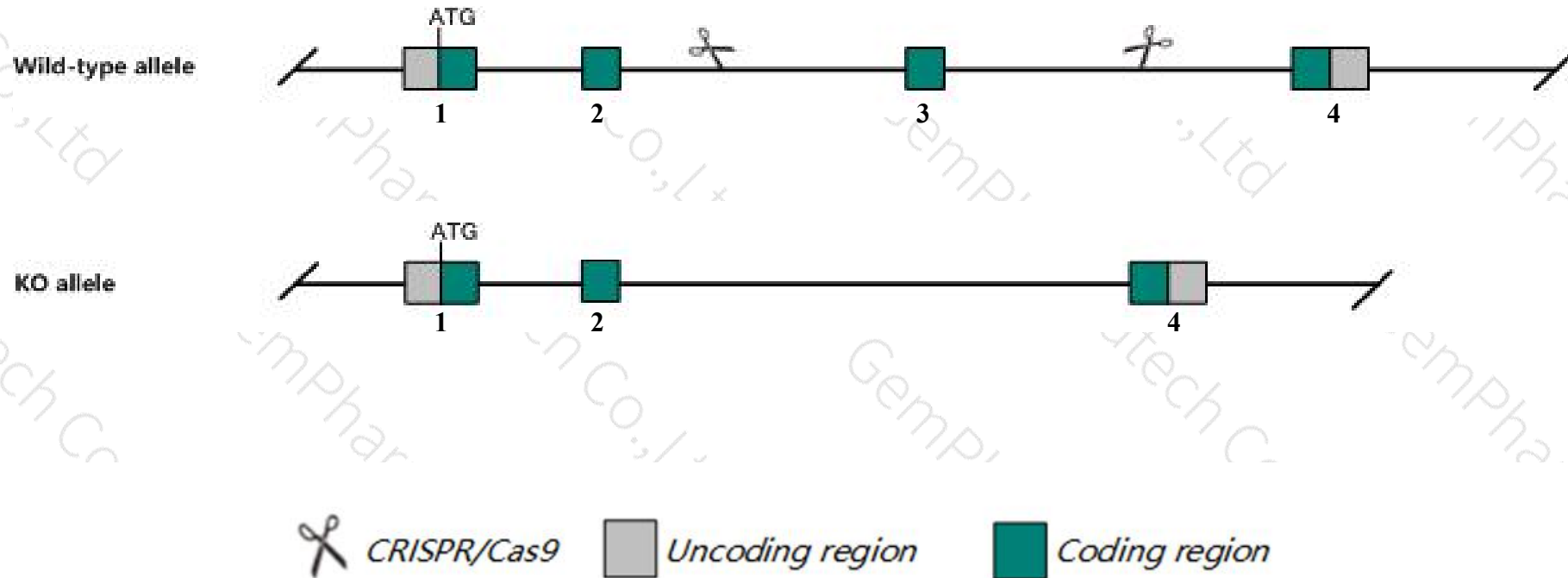
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Gabarapl2* gene. The schematic diagram is as follows:



- The *Gabarapl2* gene has 3 transcripts. According to the structure of *Gabarapl2* gene, exon3 of *Gabarapl2-201* (ENSMUST00000034428.7) transcript is recommended as the knockout region. The region contains 173bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Gabarapl2* gene. The brief process is as follows: CRISPR/Cas9 sy

- The *Gabarapl2* gene is located on the Chr8. 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)

Gabarapl2 gamma-aminobutyric acid (GABA) A receptor-associated protein-like 2 [Mus musculus (house mouse)]

Gene ID: 93739, updated on 31-Jan-2019

Summary



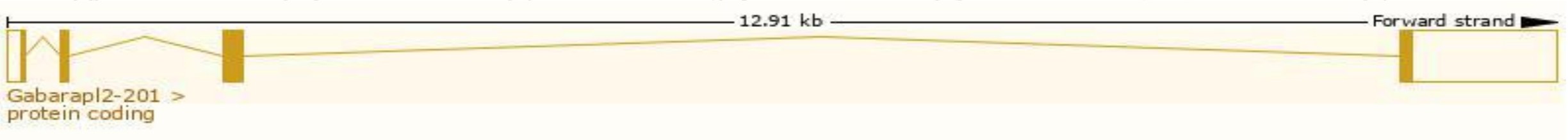
Official Symbol	Gabarapl2 provided by MGI
Official Full Name	gamma-aminobutyric acid (GABA) A receptor-associated protein-like 2 provided by MGI
Primary source	MGI:MGI:1890602
See related	Ensembl:ENSMUSG000000031950
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	0610012F20Rik, 2900019O08Rik, A1173605, GATE-16, Gef2
Expression	Ubiquitous expression in cerebellum adult (RPKM 106.0), frontal lobe adult (RPKM 66.8) and 26 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

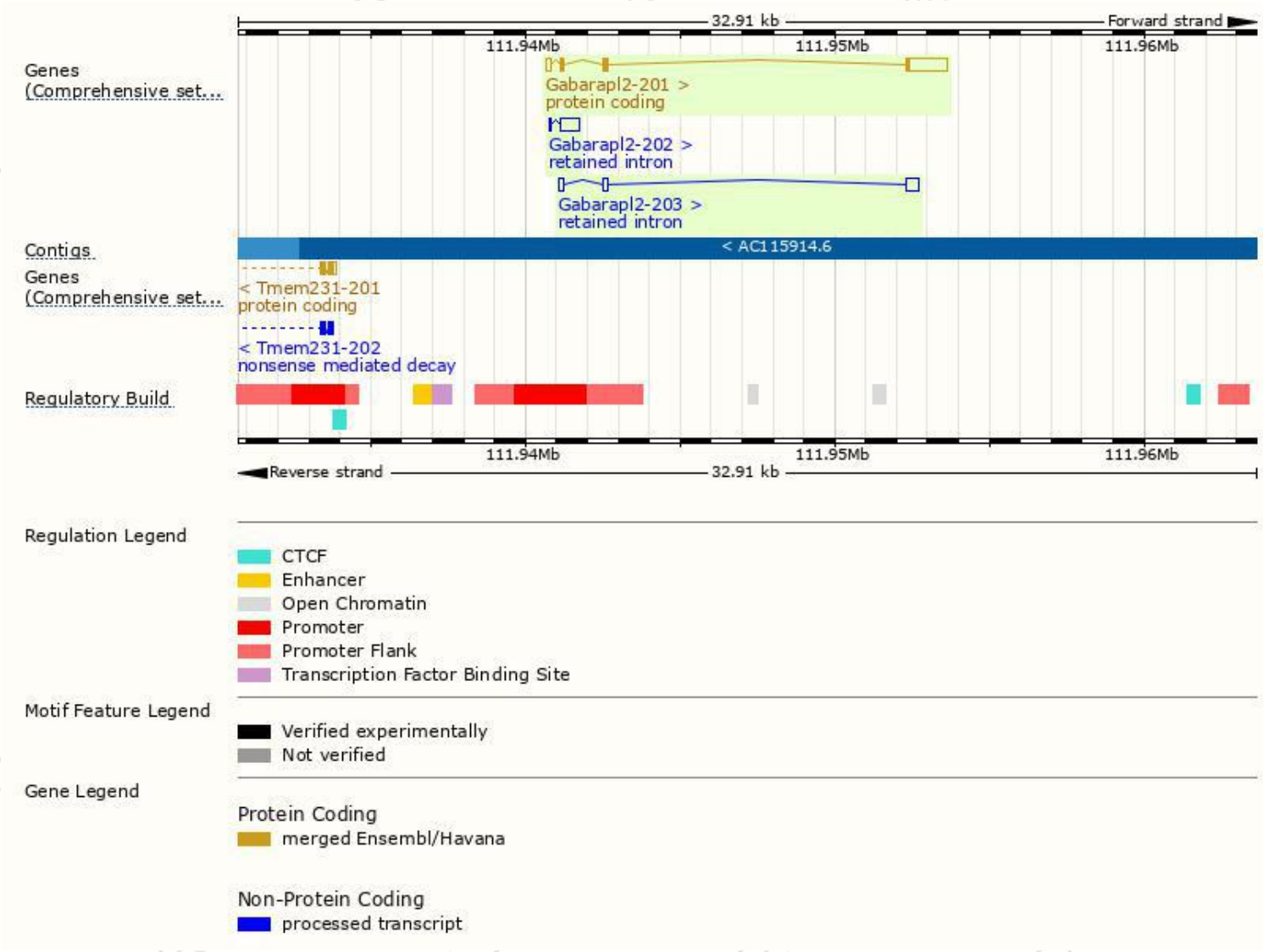
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Gabarapl2-201	ENSMUST00000034428.7	1677	117aa	Protein coding	CCDS40480	P60521	TSL:1 GENCODE basic APPRIS P1
Gabarapl2-203	ENSMUST00000133628.1	749	No protein	Retained intron	-	-	TSL:2
Gabarapl2-202	ENSMUST00000130808.1	707	No protein	Retained intron	-	-	TSL:2

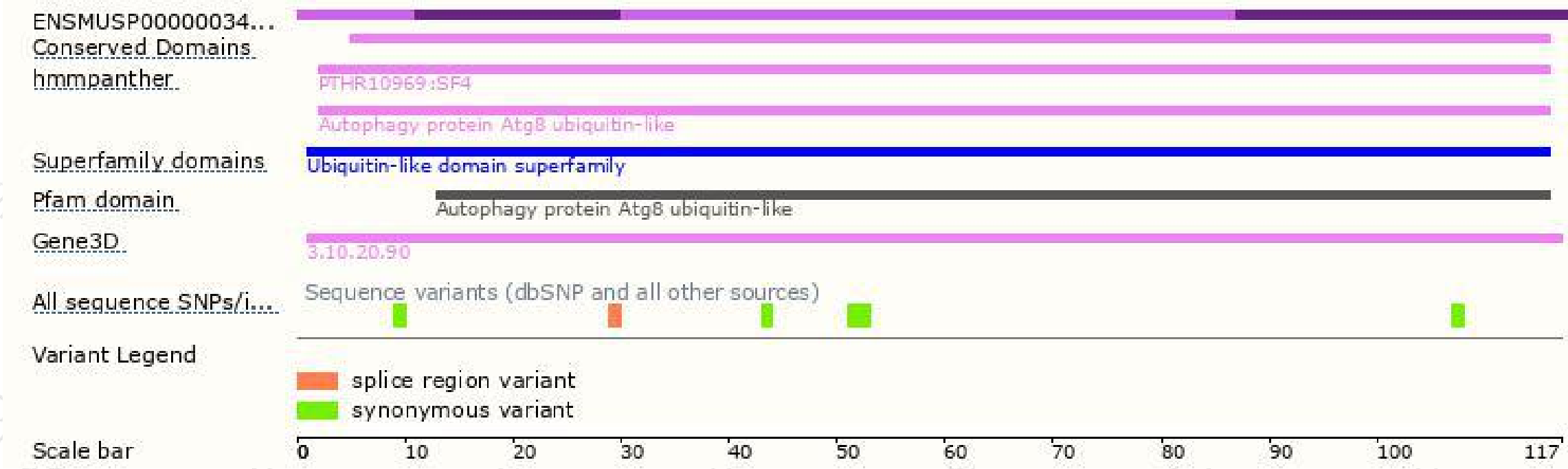
The strategy is based on the design of *Gabarapl2-201* transcript,The transcription is shown below



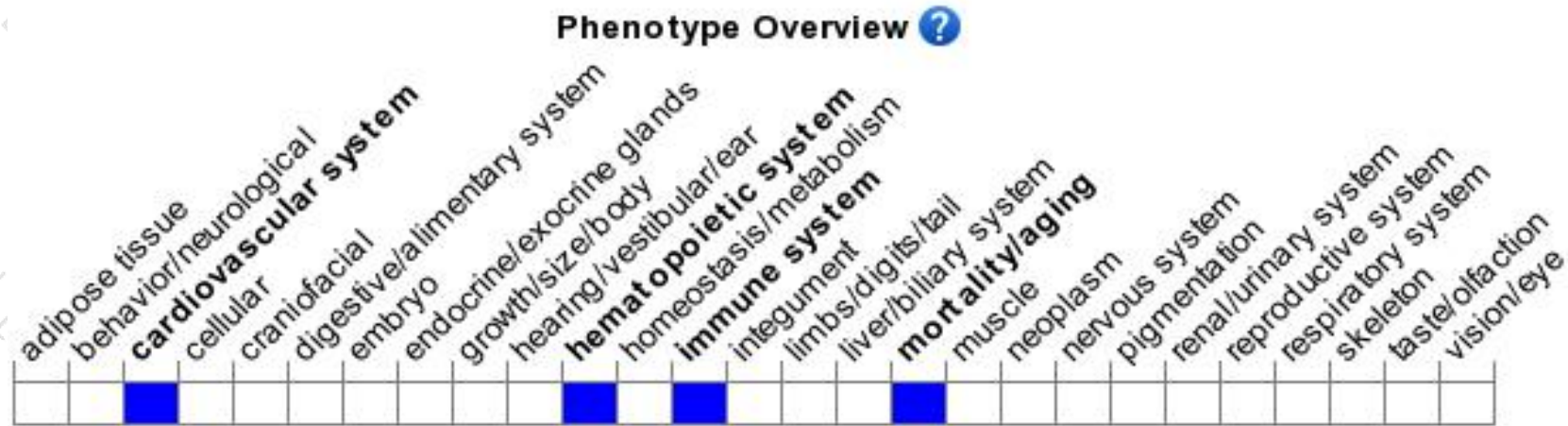
Genomic location distribution



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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