

# *Iglon5* Cas9-KO Strategy

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# Project Overview

**Project Name**

*Igln5*

**Project type**

**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Igln5* gene. The schematic diagram is as follows:



- The *Igln5* gene has 2 transcripts. According to the structure of *Igln5* gene, exon2-exon7 of *Igln5-201* (ENSMUST00000107974.2) transcript is recommended as the knockout region. The region contains 843bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Igln5* gene. The brief process is as follows: CRISPR/Cas9 system

- The most of the coding sequence will be deleted but this region is not frameshift.
- The *Iglon5* gene is located on the Chr7. 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)

## Igln5 IgLON family member 5 [ *Mus musculus* (house mouse) ]

Gene ID: 210094, updated on 12-Aug-2019

### Summary



Official Symbol	Igln5 provided by <a href="#">MGI</a>
Official Full Name	IgLON family member 5 provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:2686277</a>
See related	<a href="#">Ensembl:ENSMUSG00000013367</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	Gm1431; A230106M20Rik
Expression	Biased expression in whole brain E14.5 (RPKM 27.1), CNS E14 (RPKM 23.2) and 14 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

### Genomic context



Location: 7; 7 B3

Exon count: 8

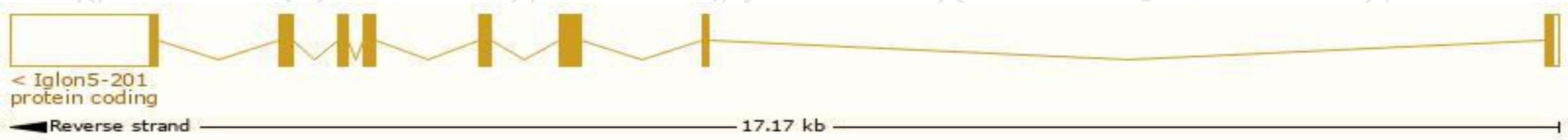
See Igln5 in [Genome Data Viewer](#)

# Transcript information (Ensembl)

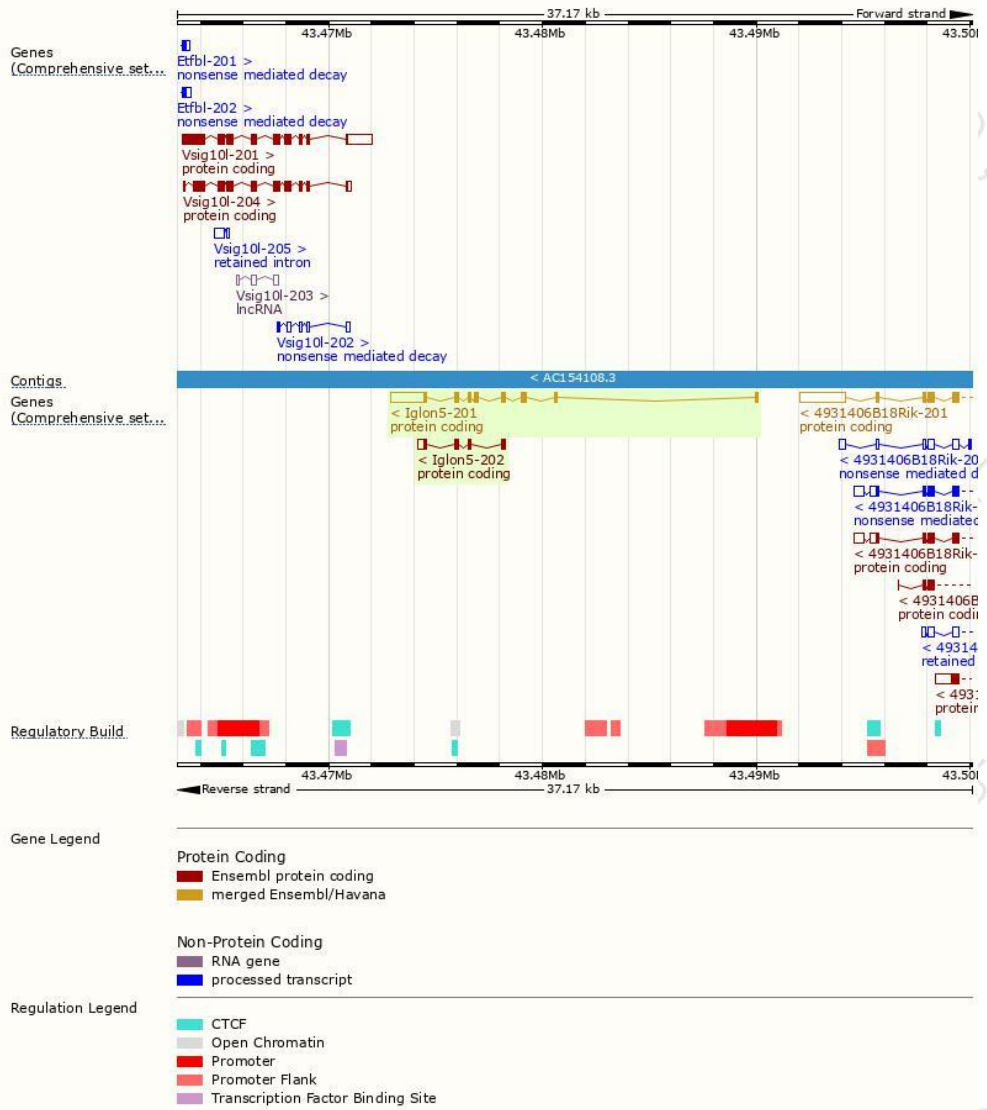
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Iglon5-201	<a href="#">ENSMUST00000107974.2</a>	2622	<a href="#">336aa</a>	Protein coding	<a href="#">CCDS52223</a>	<a href="#">Q8HW98</a>	TSL:1 GENCODE basic APPRIS P1
Iglon5-202	<a href="#">ENSMUST00000206336.1</a>	762	<a href="#">161aa</a>	Protein coding	-	<a href="#">A0A0U1RP50</a>	CDS 5' incomplete TSL:3

The strategy is based on the design of *Iglon5-201* transcript,The transcription is shown below

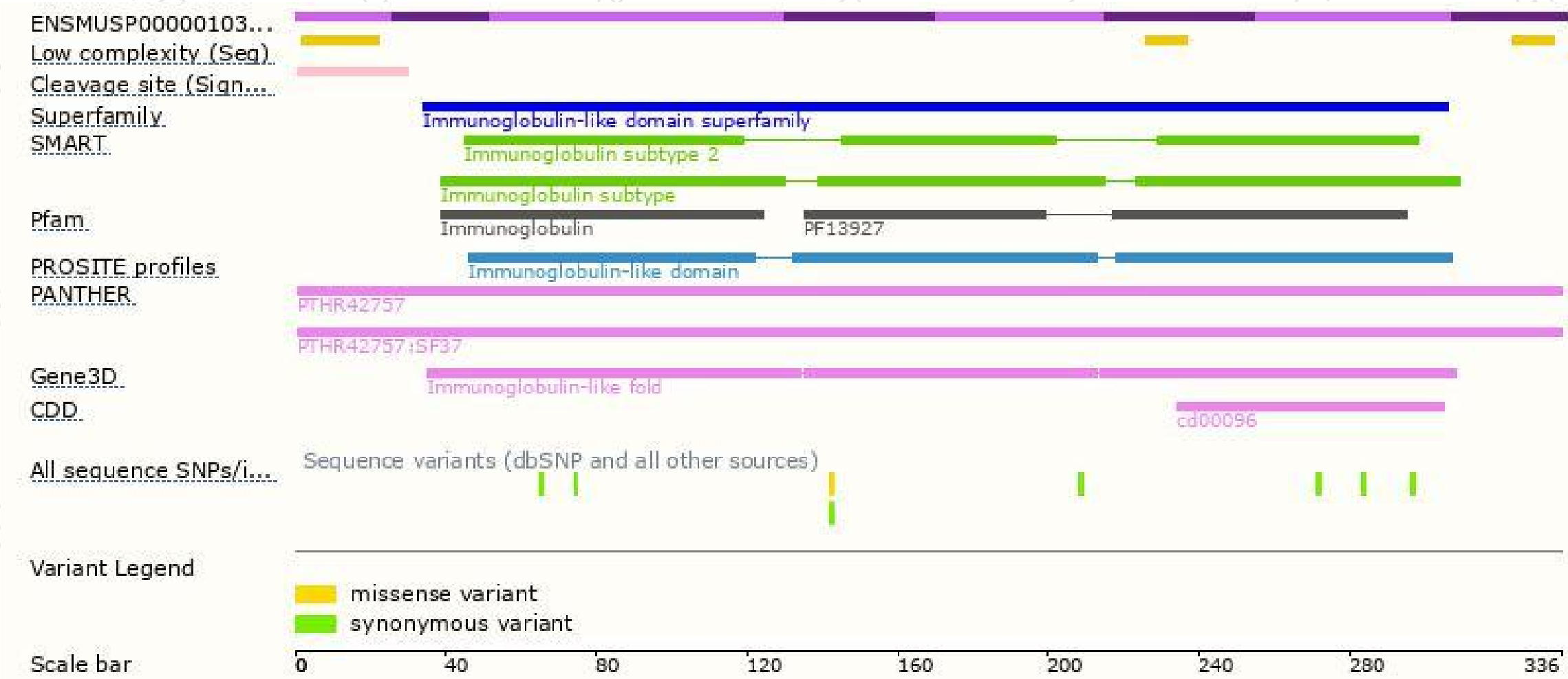


# Genomic location distribution





# Protein domain



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

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