

# *Igsf3* Cas9-KO Strategy

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# Project Overview

**Project Name**

*Igsf3*

**Project type**

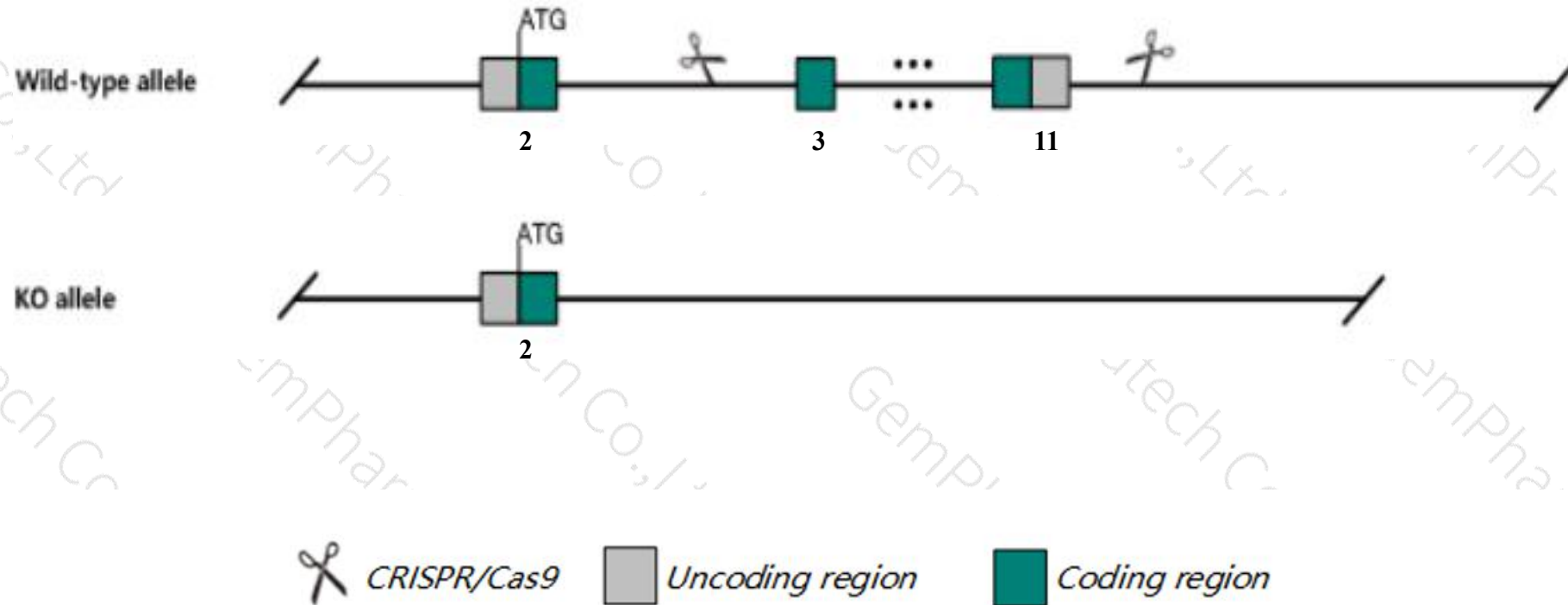
**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Igsf3* gene. The schematic diagram is as follows:



- The *Igsf3* gene has 3 transcripts. According to the structure of *Igsf3* gene, exon3-exon11 of *Igsf3-201* (ENSMUST00000043983.10) transcript is recommended as the knockout region. The region contains 3542bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Igsf3* gene. The brief process is as follows: CRISPR/Cas9 system v

- The KO region contains functional region of the *Gm42538* gene. Knockout the region may affect the function of *Gm42538* gene.
- The *Igsf3* gene is located on the Chr3. 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)

## Igsf3 immunoglobulin superfamily, member 3 [Mus musculus (house mouse)]

Gene ID: 78908, updated on 13-Mar-2020

### Summary



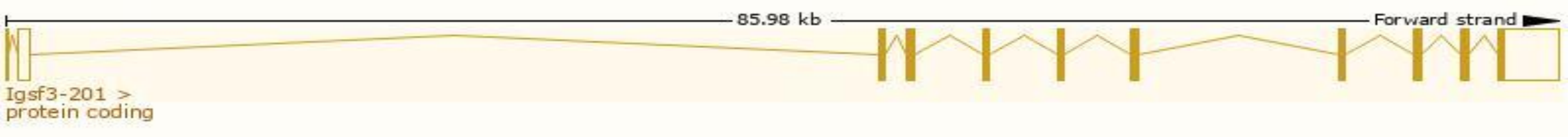
<b>Official Symbol</b>	Igsf3 provided by <a href="#">MGI</a>
<b>Official Full Name</b>	immunoglobulin superfamily, member 3 provided by <a href="#">MGI</a>
<b>Primary source</b>	<a href="#">MGI:MGI:1926158</a>
<b>See related</b>	<a href="#">Ensembl:ENSMUSG00000042035</a>
<b>Gene type</b>	protein coding
<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>	1700016K10Rik, 2810035F16Rik, 4833439O17Rik, mKIAA0466
<b>Expression</b>	Ubiquitous expression in ovary adult (RPKM 8.2), limb E14.5 (RPKM 8.0) and 26 other tissues <a href="#">See more</a>
<b>Orthologs</b>	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

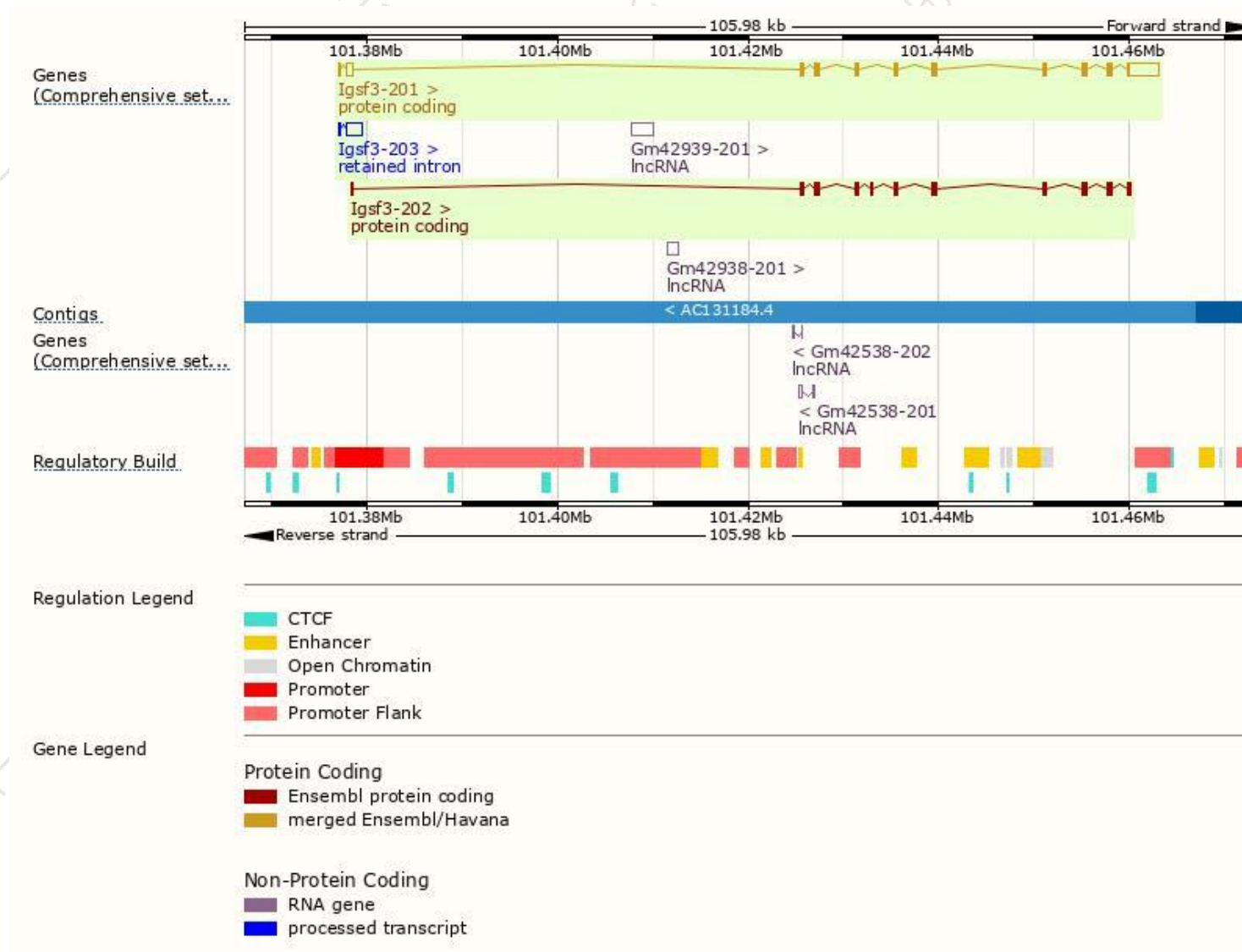
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Igsf3-201	<a href="#">ENSMUST00000043983.10</a>	7371	<a href="#">1194aa</a>	Protein coding	<a href="#">CCDS17682</a>	<a href="#">Q6ZQA6</a>	TSL:1 GENCODE basic APPRIS P2
Igsf3-202	<a href="#">ENSMUST00000195164.1</a>	3876	<a href="#">1214aa</a>	Protein coding	-	<a href="#">A0A0A6YX40</a>	TSL:5 GENCODE basic APPRIS ALT2
Igsf3-203	<a href="#">ENSMUST00000198995.4</a>	1855	No protein	Retained intron	-	-	TSL:1

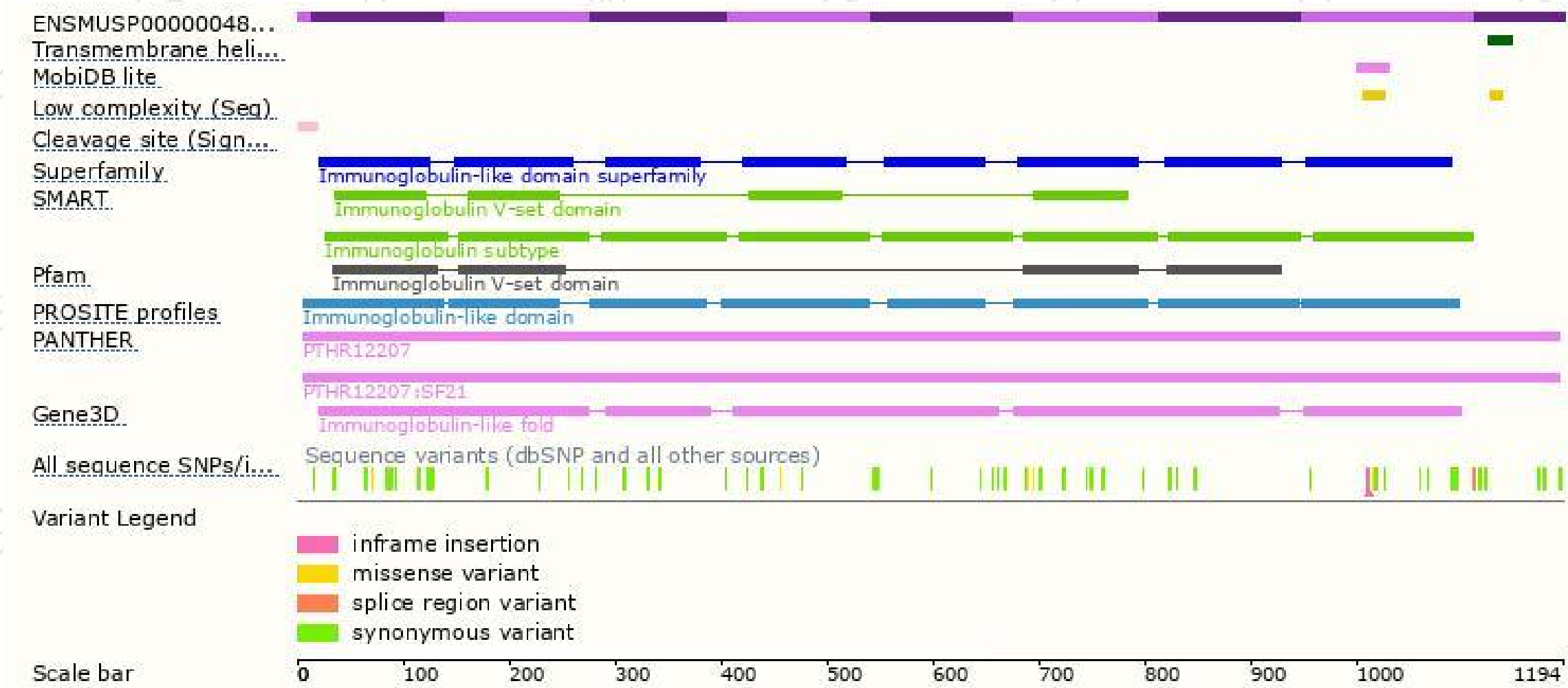
The strategy is based on the design of *Igsf3-201* transcript,the transcription is shown below:



# Genomic location distribution



# Protein domain



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

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