Jaml Cas9-KO *Strategy*

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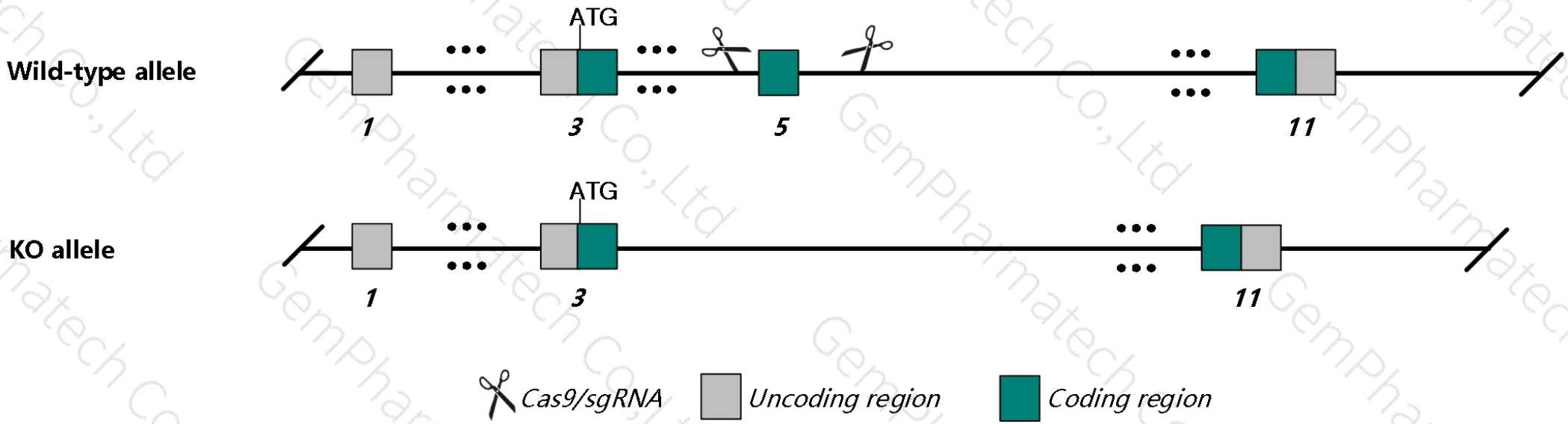
Project Overview

Project Name	***Jaml***
Project type	**Cas9-KO**
Strain background	**C57BL/6J**

Knockout strategy

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



Technical routes

- The *Jaml* gene has 7 transcripts.According to the structure of *Jaml* gene, exon5 of *Jaml*-201 (ENSMUST00000050020.7) transcript is recommended as the knockout region.The region contains 226bp coding sequence.Knock out the region will result in disruption of protein function.

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

Notice

- Transcript *Jaml-207* may not be affected.
- The *Jaml* 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, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information （NCBI)

集萃药康 GemPharmatech

Jaml junction adhesion molecule like [*Mus musculus* (house mouse)]

Gene ID: 270152, updated on 31-Jan-2019

Summary

Official Symbol	Jaml provided by MGI
Official Full Name	junction adhesion molecule like provided by MGI
Primary source	MGI:MGI:2685484
See related	Ensembl:ENSMUSG00000048534
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	AMICA; Crea7; Gm638; Amica1
Expression	Low expression observed in reference dataset See more
Orthologs	human all

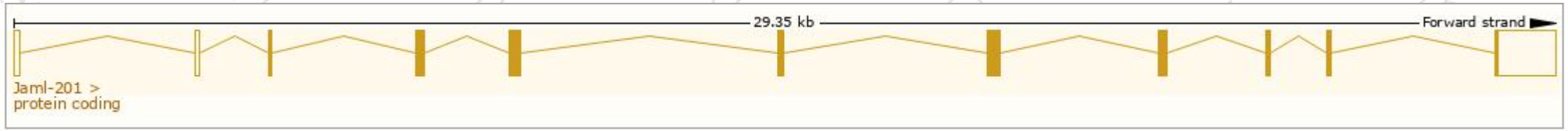
Transcript information （Ensembl）

The gene has 7 transcripts, and all transcripts are shown below:

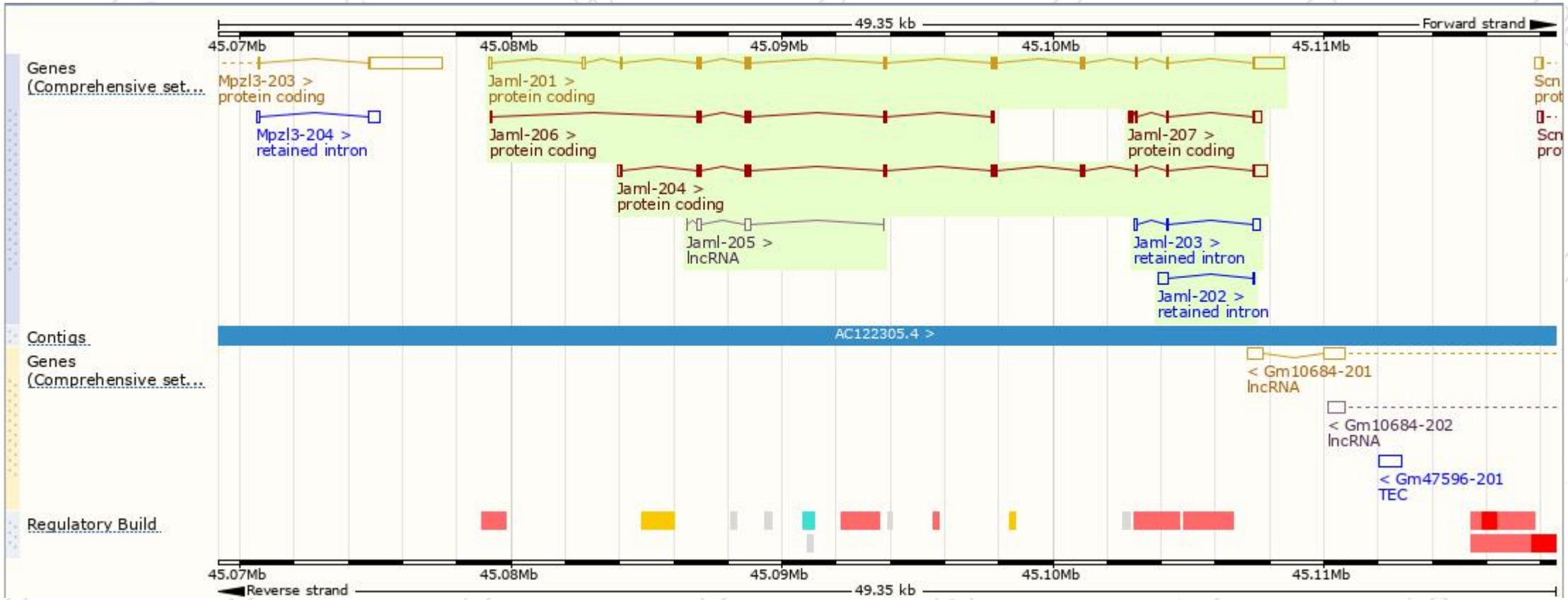
Show/hide columns (1 hidden) Filter

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Jaml-201	ENSMUST00000050020.7	2461	379aa	Protein coding	CCDS23128	Q80UL9	TSL:1 GENCODE basic APPRIS P1
Jaml-204	ENSMUST00000215880.1	1704	379aa	Protein coding	CCDS23128	Q80UL9	TSL:1 GENCODE basic APPRIS P1
Jaml-206	ENSMUST00000216426.1	652	167aa	Protein coding	-	A0A1L1STQ5	CDS 3' incomplete TSL:3
Jaml-207	ENSMUST00000217074.1	589	113aa	Protein coding	-	A0A1L1SSJ0	CDS 5' incomplete TSL:3
Jaml-202	ENSMUST00000215098.1	489	No protein	Retained intron	-	-	TSL:2
Jaml-203	ENSMUST00000215266.1	477	No protein	Retained intron	-	-	TSL:2
Jaml-205	ENSMUST00000216333.1	427	No protein	lncRNA	-	-	TSL:5

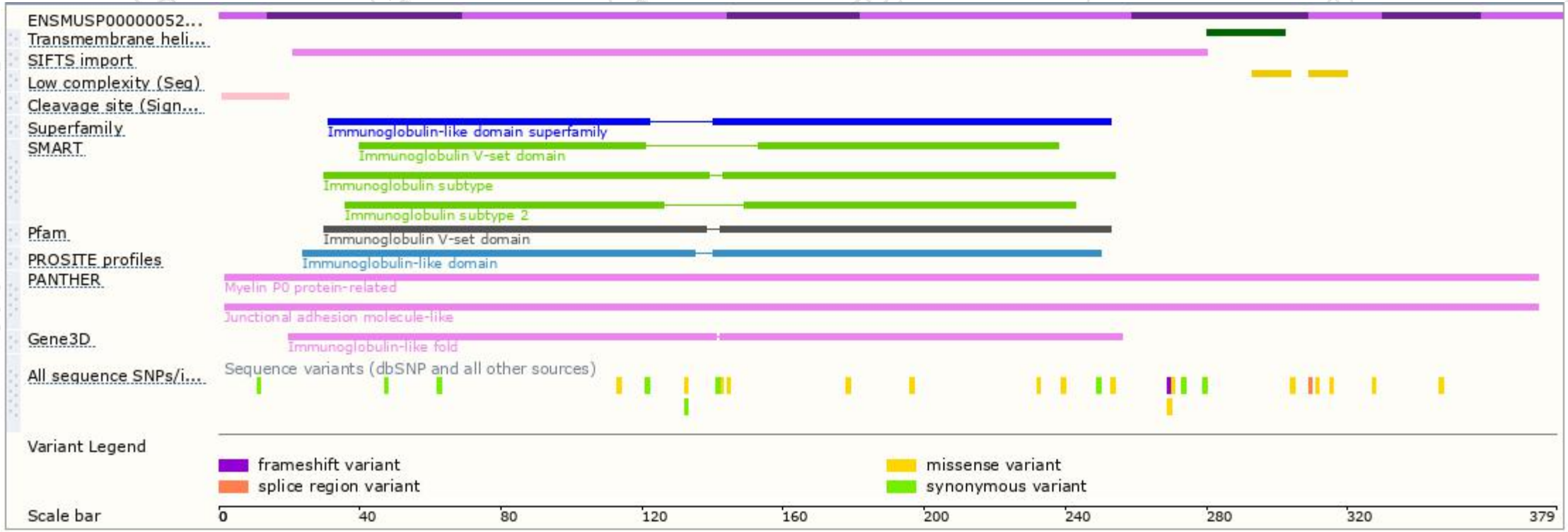
The strategy is based on the design of *Jaml*-201 transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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