# Jaml Cas9-KO Strategy mate ch Co-stat Renphamatech Coste

**Designer:** Comphanated C. L.

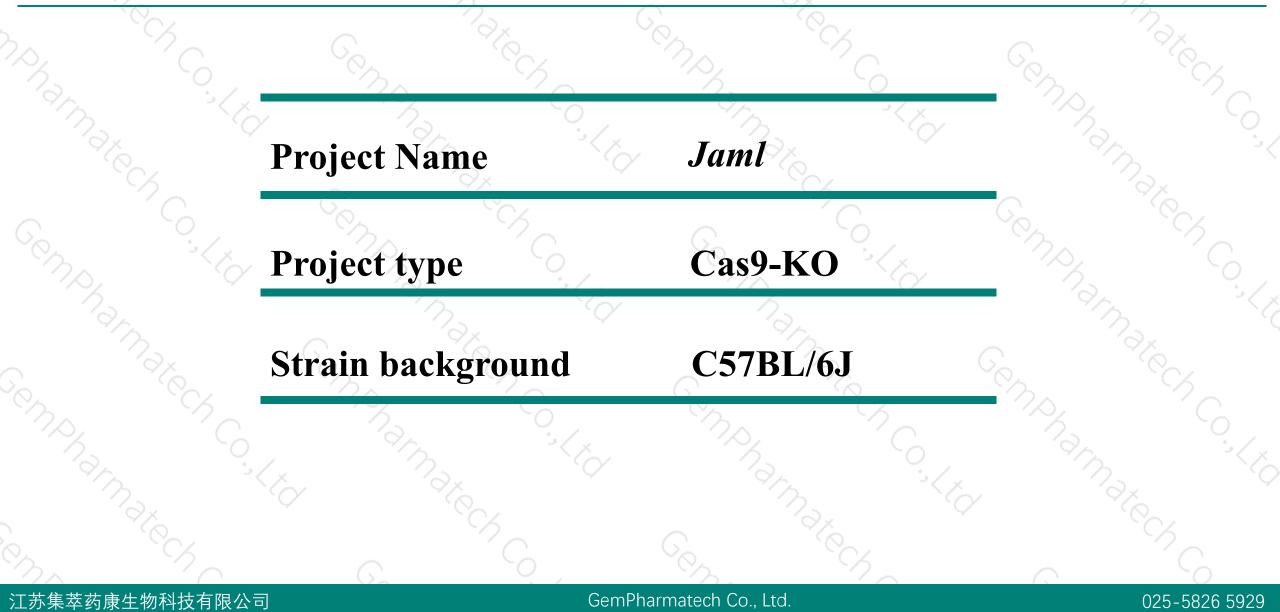
Daohua Xu 

Cempharmatery

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## **Project Overview**



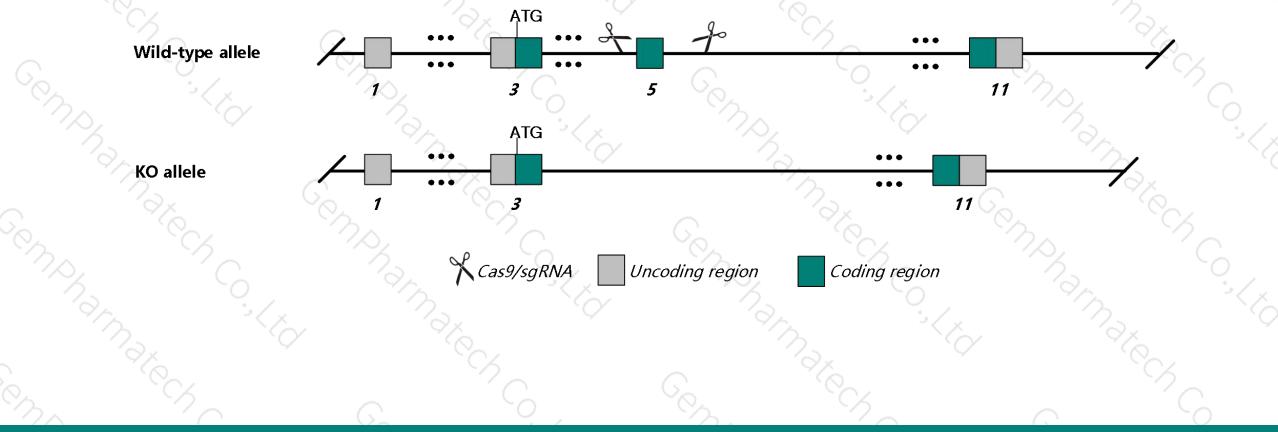


## **Knockout strategy**



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



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- 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.



- ➤ 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.

Notice

## **Gene information**



☆ ?

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

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

#### - Summary

Official SymbolJaml provided by MGIOfficial Full Namejunction adhesion molecule like provided by MGIPrimary soureMGI:MGI:2685484See relateEnsembl:ENSMUSG0000048534Gene typeprotein codingRefSeq statusVALIDATEDOrganismMus musculusLineageEukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha;<br/>Muroidea; Murinae; Mus; MusAlso known asAMICA; Crea7; GmG38; Amica1ExpressionLow expression observed in reference dataset See more<br/>Muma all

(NCBI)

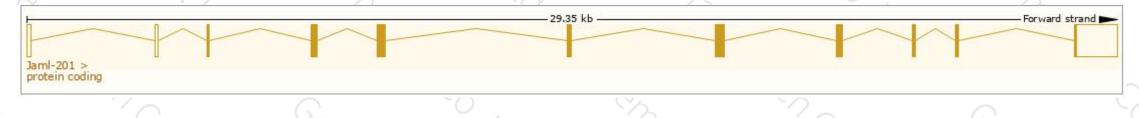
## **Transcript information (Ensembl)**



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

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

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

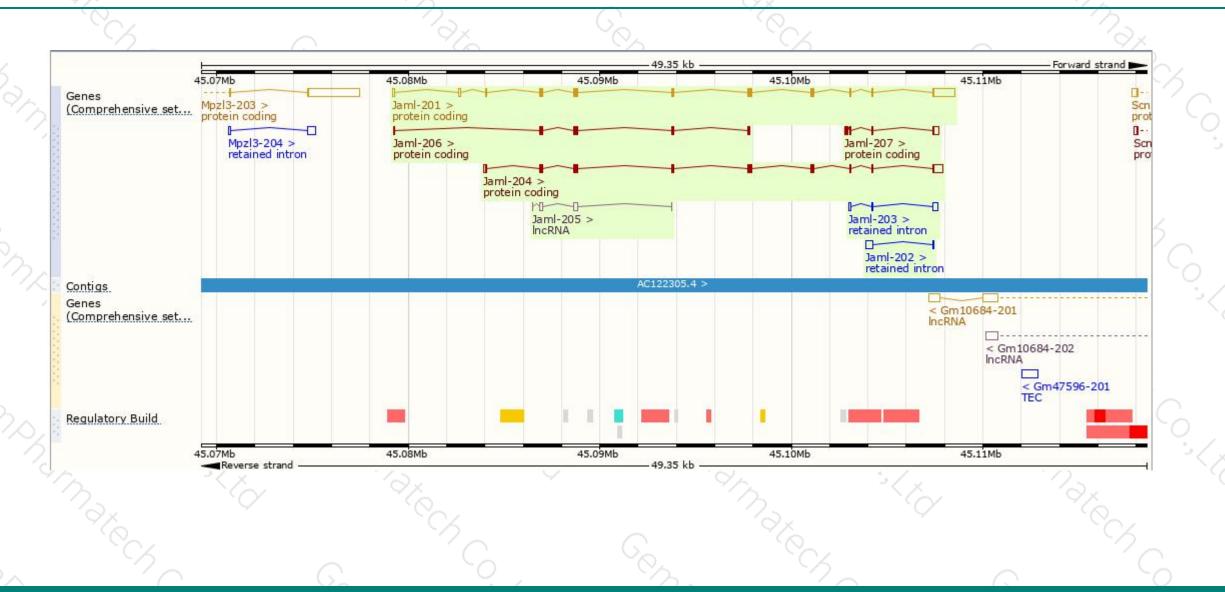


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## **Genomic location distribution**



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## **Protein domain**



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If you have any questions, you are welcome to inquire. Tel: 025-5864 1534



