Mast1 Cas9-KO Strategy

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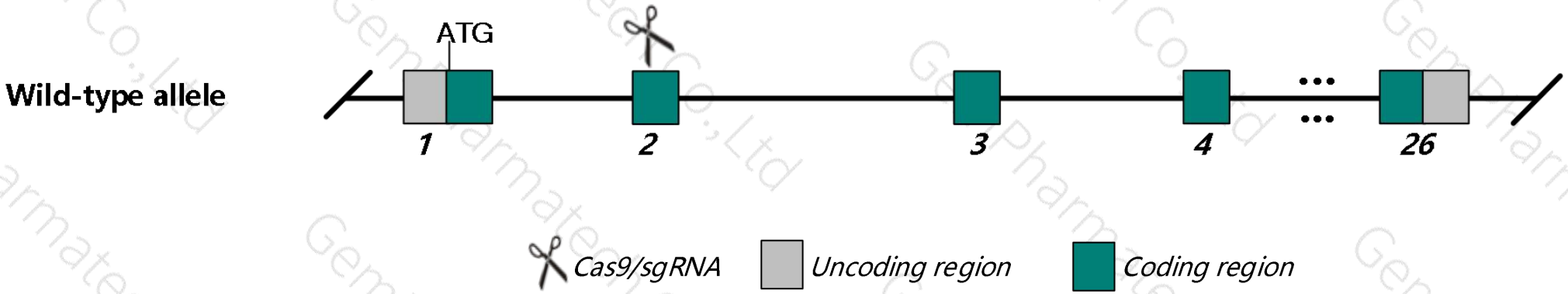
Project Overview

Project Name	***Mast1***
Project type	**Cas9-KO**
Strain background	**C57BL/6N**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Mast1* gene. The schematic diagram is as follows:



Technical routes

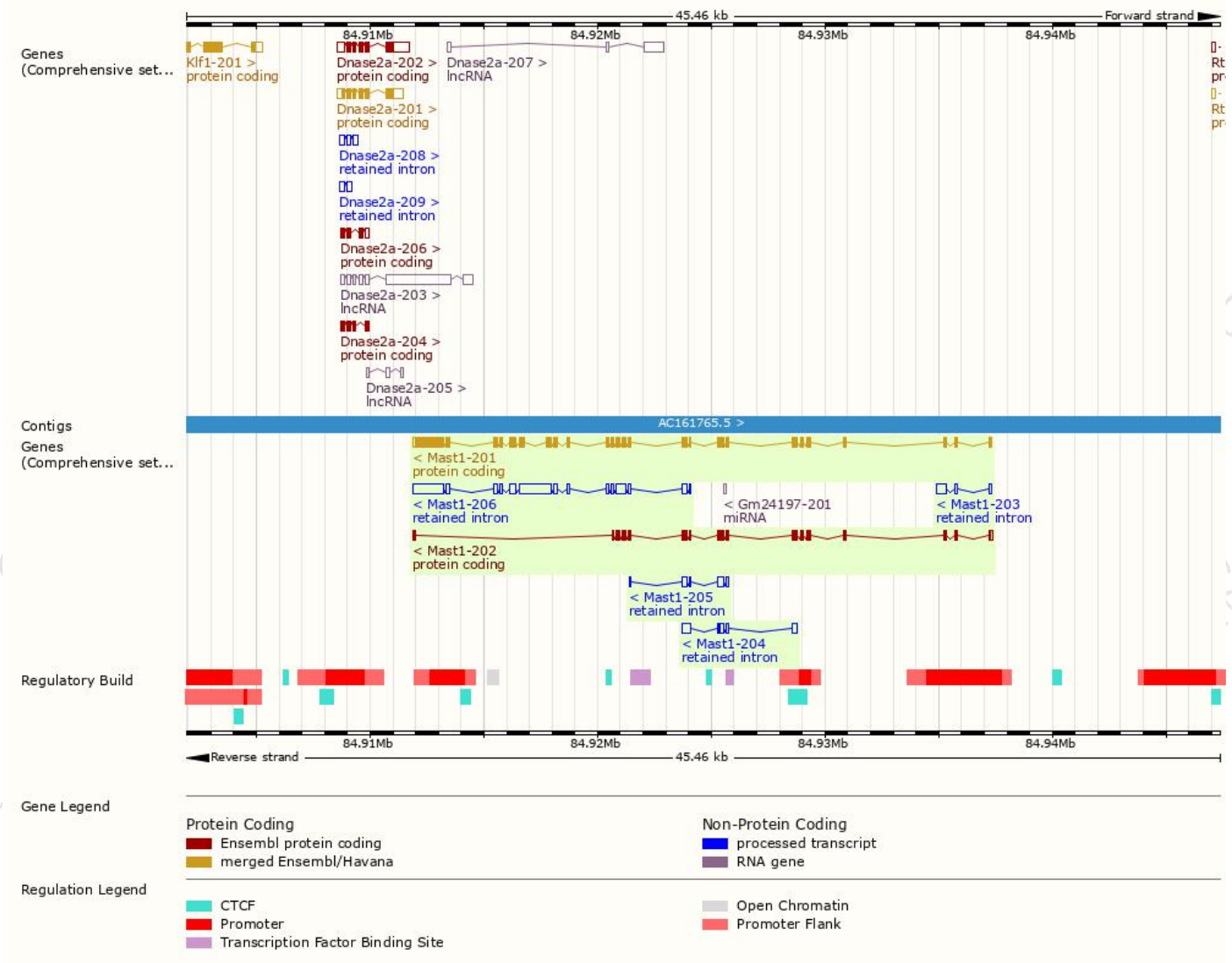
- In this project we use CRISPR/Cas9 technology to modify *Mast1* gene. The brief process is as follows: sgRNA was transcribed in vitro.Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6N mice.Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6N mice.

Notice

- The *Mast1* 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）

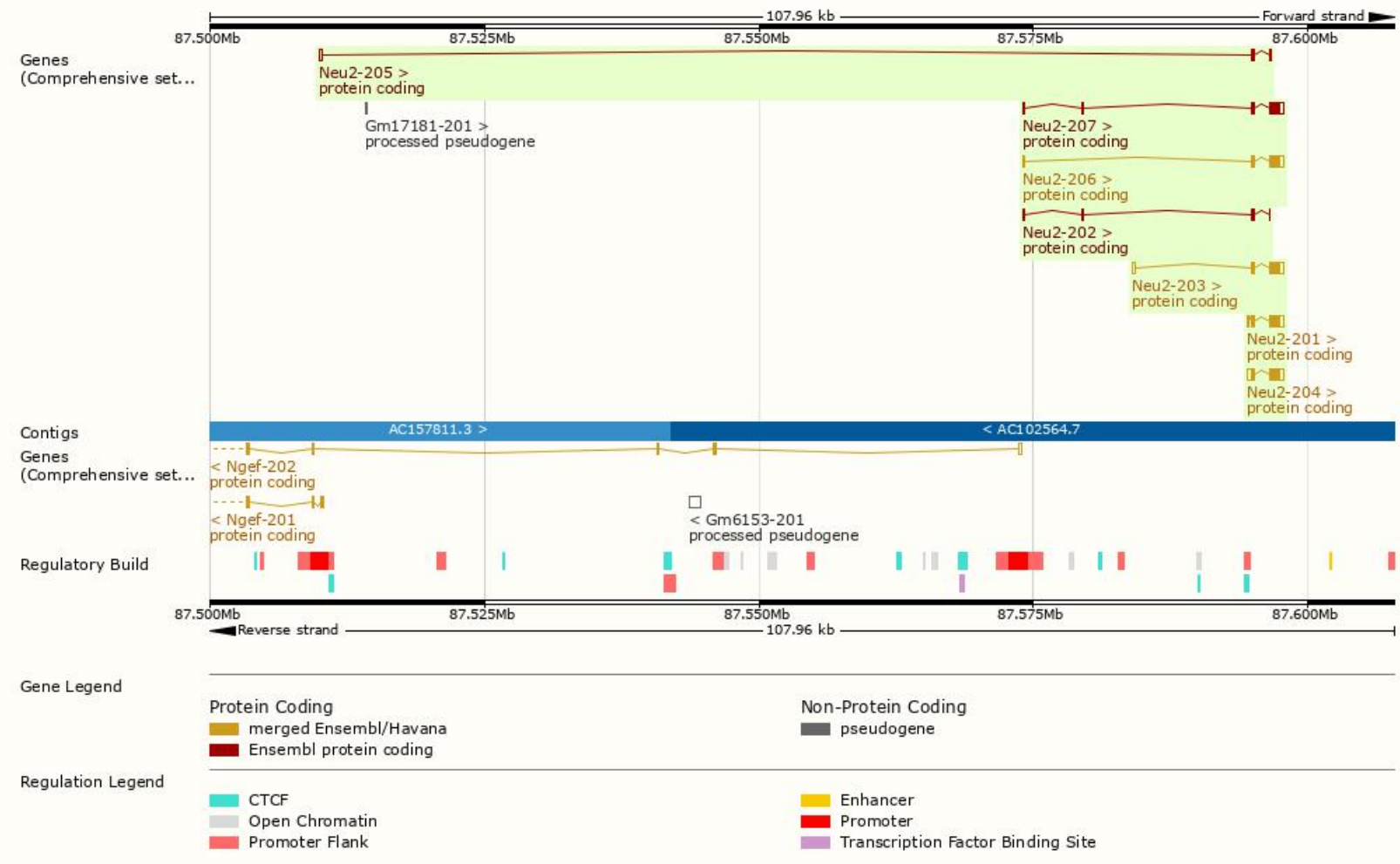


Transcript information（Ensembl）

The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Mast1-201	ENSMUST00000109741.8	4872	1570aa	Protein coding	CCDS40415	Q9R1L5	TSL:1 GENCODE basic APPRIS P2
Mast1-202	ENSMUST00000119820.1	2078	658aa	Protein coding	-	E9Q6Q5	TSL:5 GENCODE basic APPRIS ALT2
Mast1-206	ENSMUST00000153000.1	4821	No protein	Retained intron	-	-	TSL:2
Mast1-204	ENSMUST00000130923.1	884	No protein	Retained intron	-	-	TSL:2
Mast1-205	ENSMUST00000138221.7	760	No protein	Retained intron	-	-	TSL:5
Mast1-203	ENSMUST00000128356.1	635	No protein	Retained intron	-	-	TSL:2

Genomic location distribution



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

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