

# Mettl7b Cas9-KO Strategy

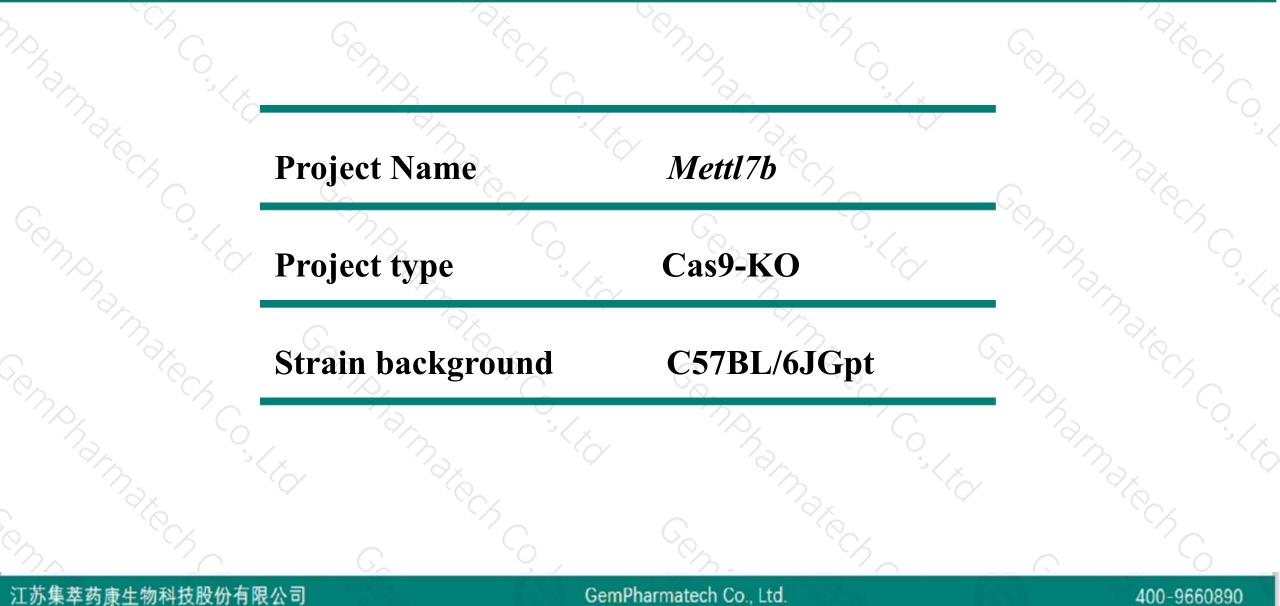
Designer: Reviewer:

**Design Date:** 

Daohua Xu Huimin Su 2019-9-9

## **Project Overview**

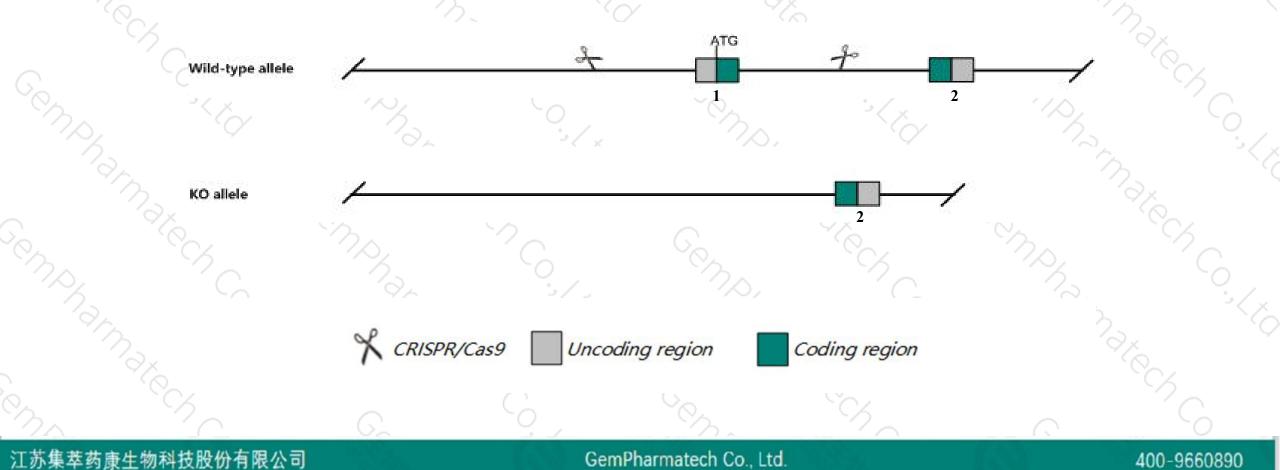




# **Knockout** strategy



This model will use CRISPR/Cas9 technology to edit the Mettl7b gene. The schematic diagram is as follows:





- The Mettl7b gene has 1 transcript. According to the structure of Mettl7b gene, exon1 of Mettl7b-201 (ENSMUST00000026398.4) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- > In this project we use CRISPR/Cas9 technology to modify Mettl7b gene. The brief process is as follows: CRISPR/Cas9 system

- The Mettl7b gene is located on the Chr10. 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.

Notice

# **Gene information (NCBI)**



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#### Mettl7b methyltransferase like 7B [Mus musculus (house mouse)]

Gene ID: 71664, updated on 8-Feb-2019

#### Summary

Official Symbol	Mettl7b provided by MGI
Official Full Name	methyltransferase like 7B provided byMGI
Primary source	MGI:MGI:1918914
See related	Ensembl:ENSMUSG0000025347
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	0610006F02Rik, Al266817
Expression	Biased expression in liver adult (RPKM 329.6), kidney adult (RPKM 92.7) and 4 other tissues See more
Orthologs	human all

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# **Transcript information (Ensembl)**



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The gene has 1 transcript, and the transcript is shown below:

Name Transcript ID		ipt ID bp		Biotype	e CCDS Uni		Flags
Mettl7b-201	ettl7b-201 ENSMUST00000026398.4		<u>244aa</u>	Protein coding	CCDS24301	Q9DD20	TSL:1 GENCODE basic APPRIS P1
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The strategy is based on the design of Mettl7b-201 transcript, The transcription is shown below

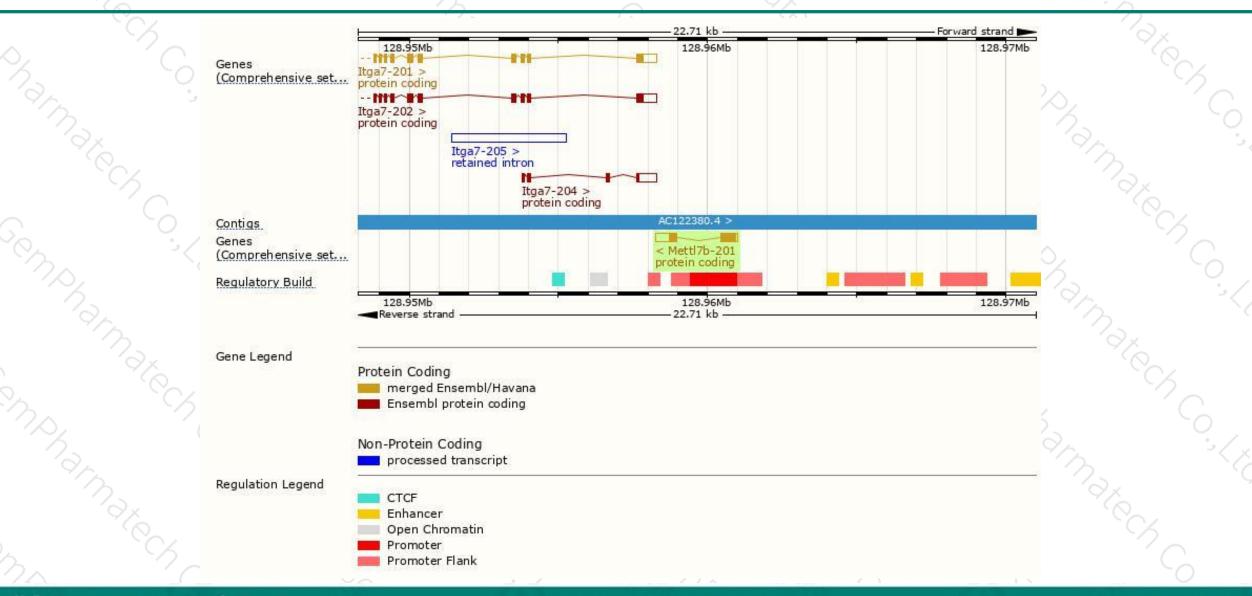
< Mettl7b-201 protein coding

Reverse strand

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2.71 kb

### **Genomic location distribution**



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### **Protein domain**



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	Gene3D	F 11000020222	3,40,50,150							
	CDD			cd02440						
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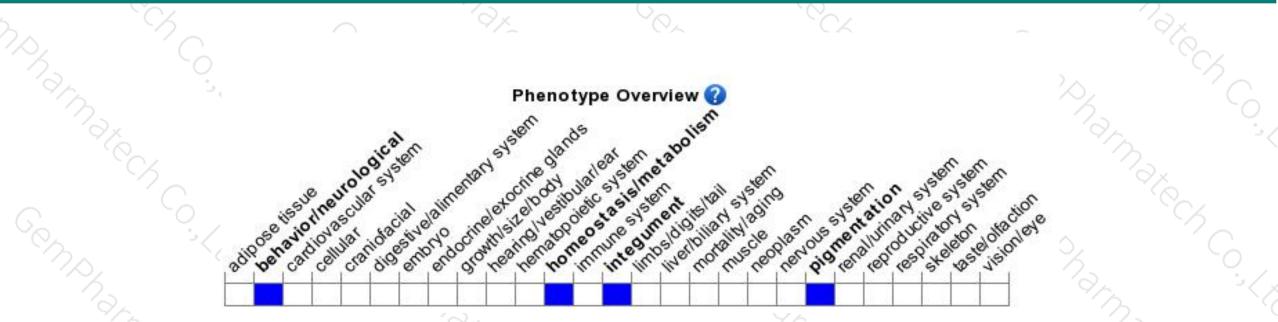
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## Mouse phenotype description(MGI)





Phenotypes affected by the gene are marked in blue.Data quoted from MGI database(http://www.informatics.jax.org/).



If you have any questions, you are welcome to inquire. Tel: 400-9660890



