

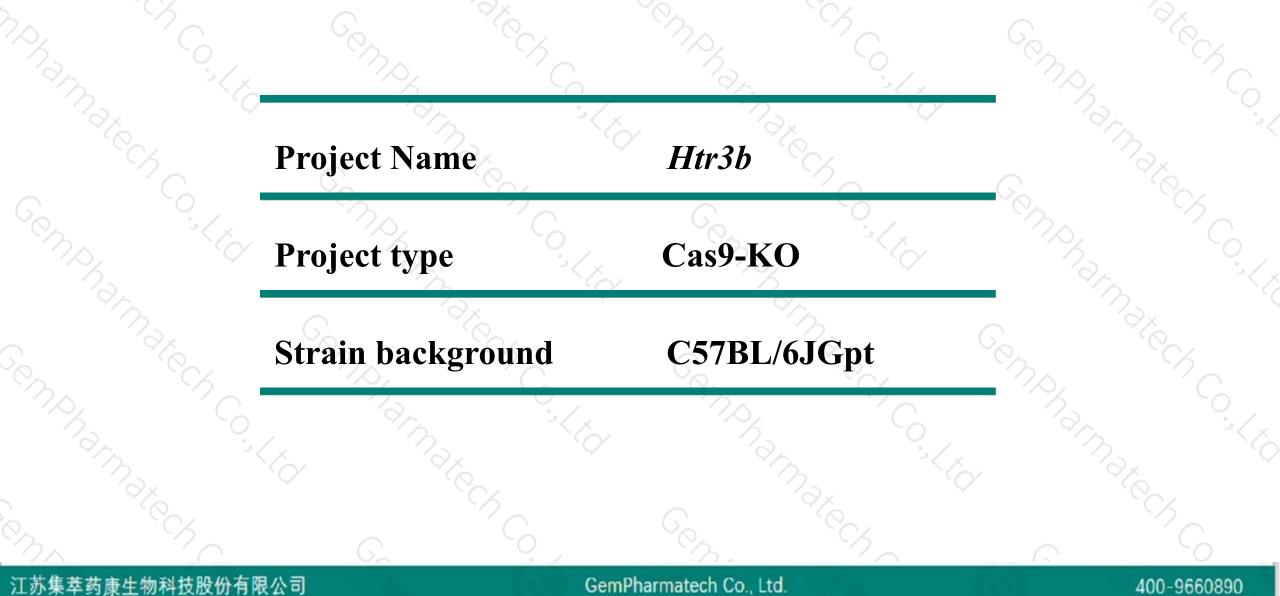
# Htr3b Cas9-KO Strategy

Designer: Reviewer: Design Date: Huimin Su Ruirui Zhang

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### **Project Overview**

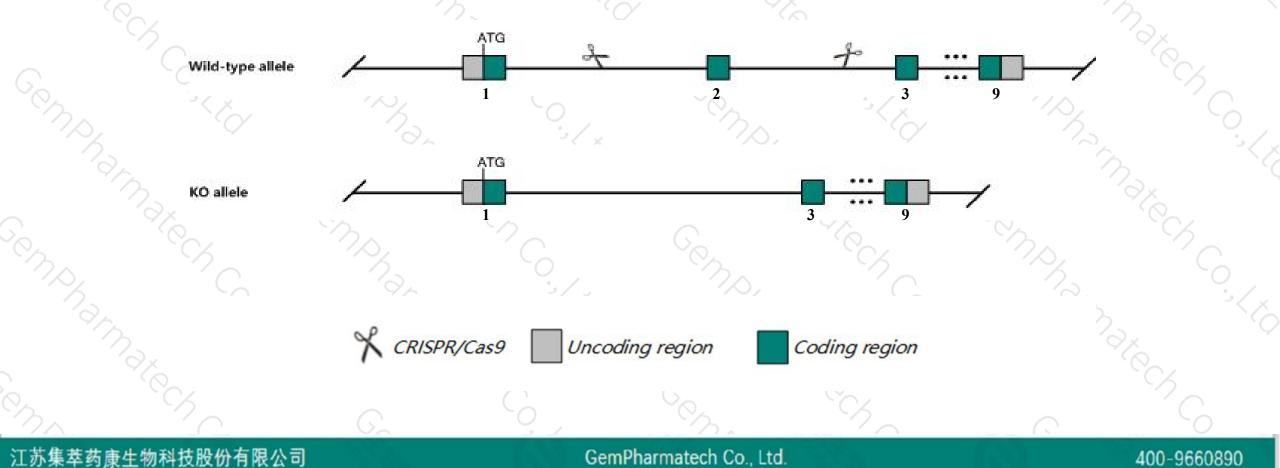




### **Knockout** strategy



This model will use CRISPR/Cas9 technology to edit the *Htr3b* gene. The schematic diagram is as follows:





- The *Htr3b* gene has 1 transcript. According to the structure of *Htr3b* gene, exon2 of *Htr3b-201* (ENSMUST0000008734.4) transcript is recommended as the knockout region. The region contains 161bp coding sequence. Knock out the region will result in disruption of protein function.
- > In this project we use CRISPR/Cas9 technology to modify *Htr3b* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Htr3b* 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, 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)



2 ?

#### Htr3b 5-hydroxytryptamine (serotonin) receptor 3B [ Mus musculus (house mouse) ]

Gene ID: 57014, updated on 12-Aug-2019

#### Summary

Official Symbol Htr3b provided by MGI

Official Full Name 5-hydroxytryptamine (serotonin) receptor 3B provided by MGI Primary source MGI:MGI:1861899 See related Ensembl:ENSMUSG0000008590 Gene type protein coding RefSeg 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 5-HT3B Expression Low expression observed in reference dataset See more

Orthologs human all

Chromosome 9 - NC 000075.6 48651797 Zbtb16 Gm32335 -Gm51673 Gm32280 Htr3a 🛑 Htr3b 4

49042517

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# **Transcript information (Ensembl)**



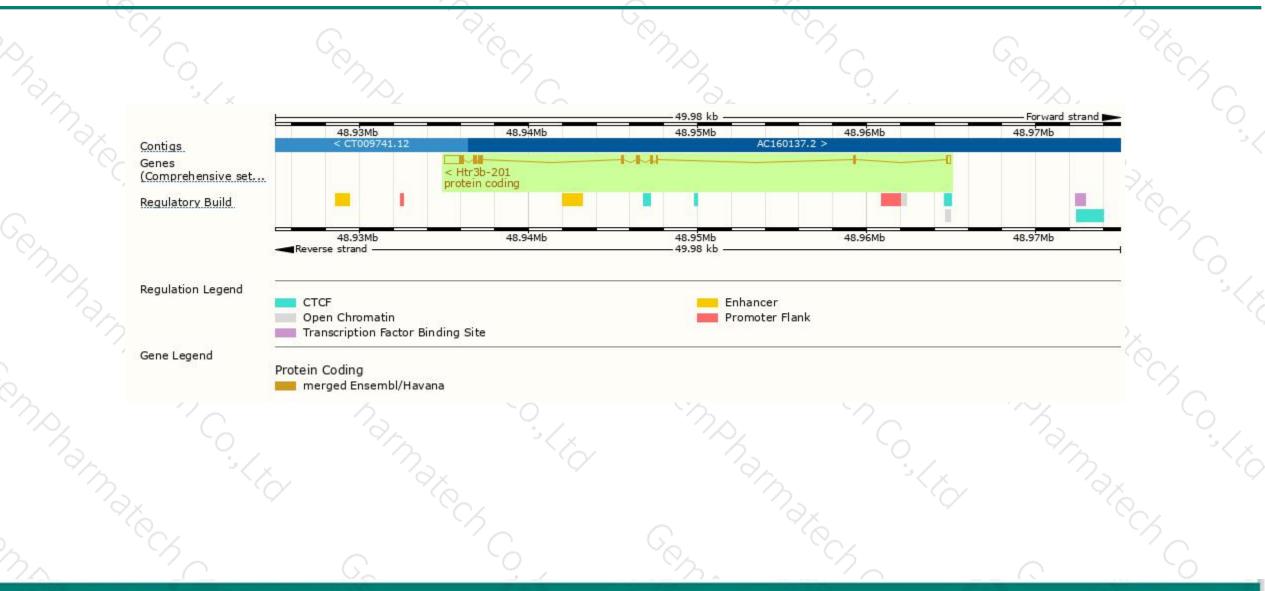
The gene has 1 transcript, and the transcript is shown below:

Name 🖕	Transcript ID 👙	bp 🖕	Protein 🛔	Biotype 🖕	CCDS 🖕	UniProt		Flags	\$
Htr3b-201	ENSMUST0000008734.4	2411	<u>437aa</u>	Protein coding	<u>CCDS23160</u> &	<u>Q9JHJ5</u> &	TSL:1	GENCODE basic	APPRIS P1

The strategy is based on the design of Htr3b-201 transcript, The transcription is shown below

< Htr3b-20	01
protein coo	ding

### **Genomic location distribution**



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# **Protein domain**



	10		Co.				
	ENSMUSP0000008 Transmembrane heli Low complexity (Seg) Cleavage site (Sign TIGRFAM	Neurotransmitter-gated i	on-channel			_	
Ŕ	Superfamily.	Neurotransmitter-gate	· `>`				
	Prints		5-hydroxytryptamine	3 receptor			
3	Pfam.	5-hydroxytryptamine 3 recep Neur Neurotransmitter-gate	30				
	PANTHER	Neurotransmitter-gated ion-cha	< /				
, S	Gene3D	PTHR18945 :SF53 Neurotransmitter-gated io	r-channel ligand-binding domain :	uperfamily 1.20.58.39	0	Park .	
	CDD.	cd19012		cd19063			· `%_
	All sequence SNPs/i Variant Legend	Sequence variants (dbSNP and	all other sources)		[} ]	ini i ar	< <
1	Scale bar	missense variant	120 160		ous variant 280 320	360 4	37
	No Ch						
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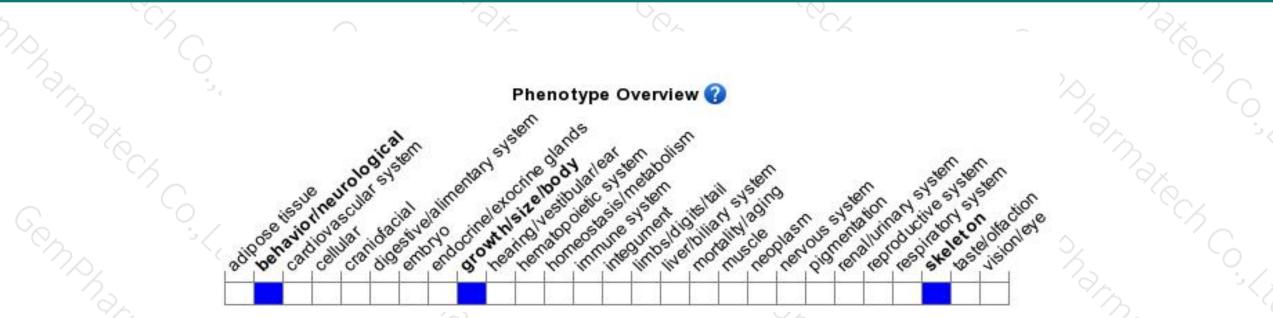
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### Mouse phenotype description(MGI)





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



