

Htr4 Cas9-KO Strategy

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Project Overview

Project Name

Htr4

Project type

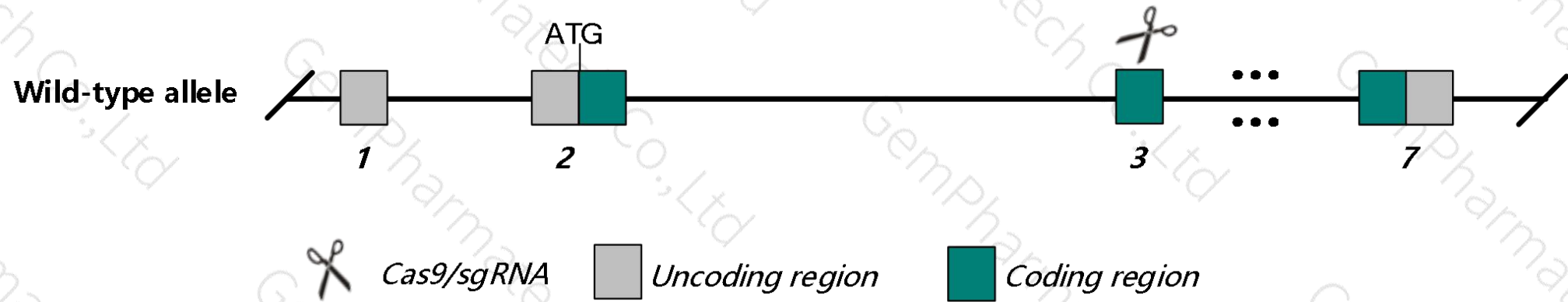
Cas9-KO

Strain background

C57BL/6N

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Htr4* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Htr4* 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.

- According to the existing MGI data, Homozygous mutant mice exhibit attenuated feeding behavior following stress and novelty and show a hypersensitivity to seizures.
- The *Htr4* gene is located on the Chr18. 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)

Htr4 5 hydroxytryptamine (serotonin) receptor 4 [*Mus musculus* (house mouse)]

Gene ID: 15562, updated on 14-Aug-2019

Summary

Official Symbol Htr4 provided by [MGI](#)
Official Full Name 5 hydroxytryptamine (serotonin) receptor 4 provided by [MGI](#)
Primary source [MGI:MGI:109246](#)
See related [Ensembl:ENSMUSG00000026322](#)
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 5-HT4; 5HTR4; 5-HT-4; 5-HT<4L>
Expression Biased expression in bladder adult (RPKM 1.5), colon adult (RPKM 1.5) and 6 other tissues [See more](#)
Orthologs [human](#) [all](#)

Genomic context

Location: 18; 18 E1

See Htr4 in [Genome Data Viewer](#)

Exon count: 12

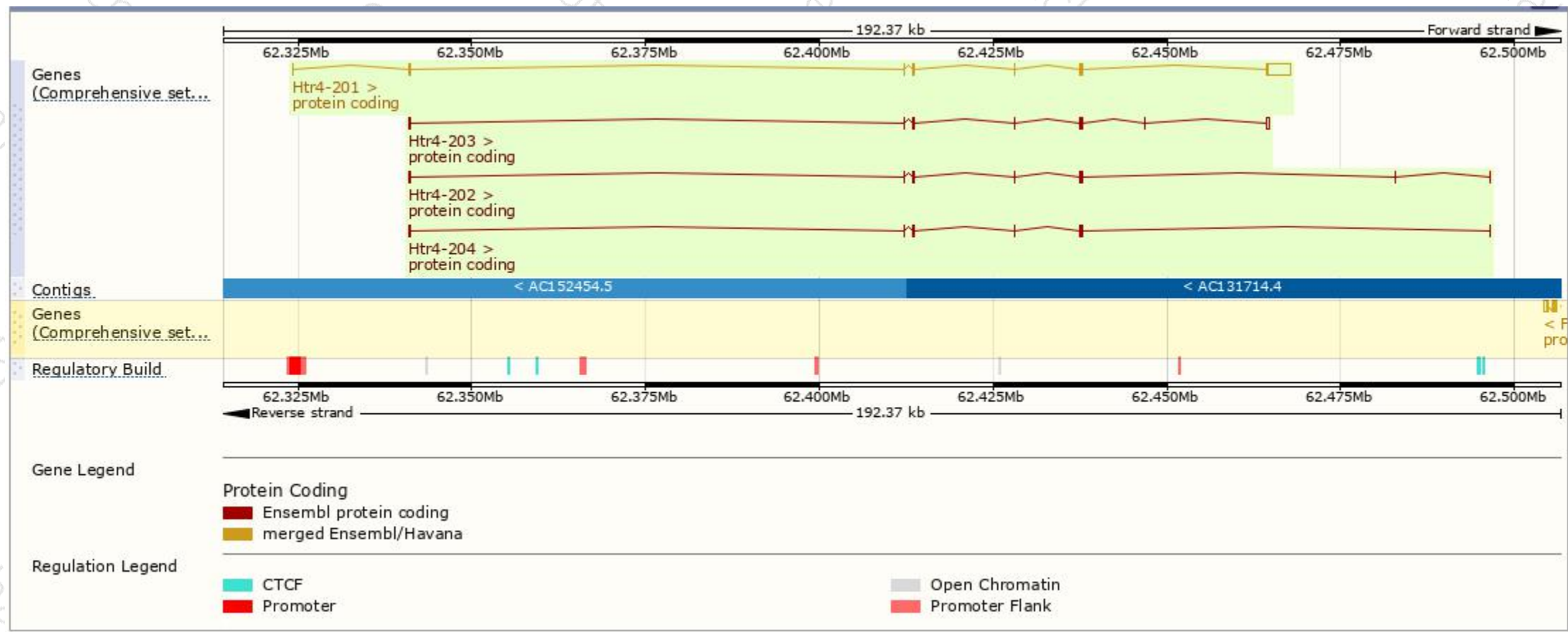
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	18	NC_000084.6 (62323546..62503027)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	18	NC_000084.5 (62483858..62627456)

Transcript information (Ensembl)

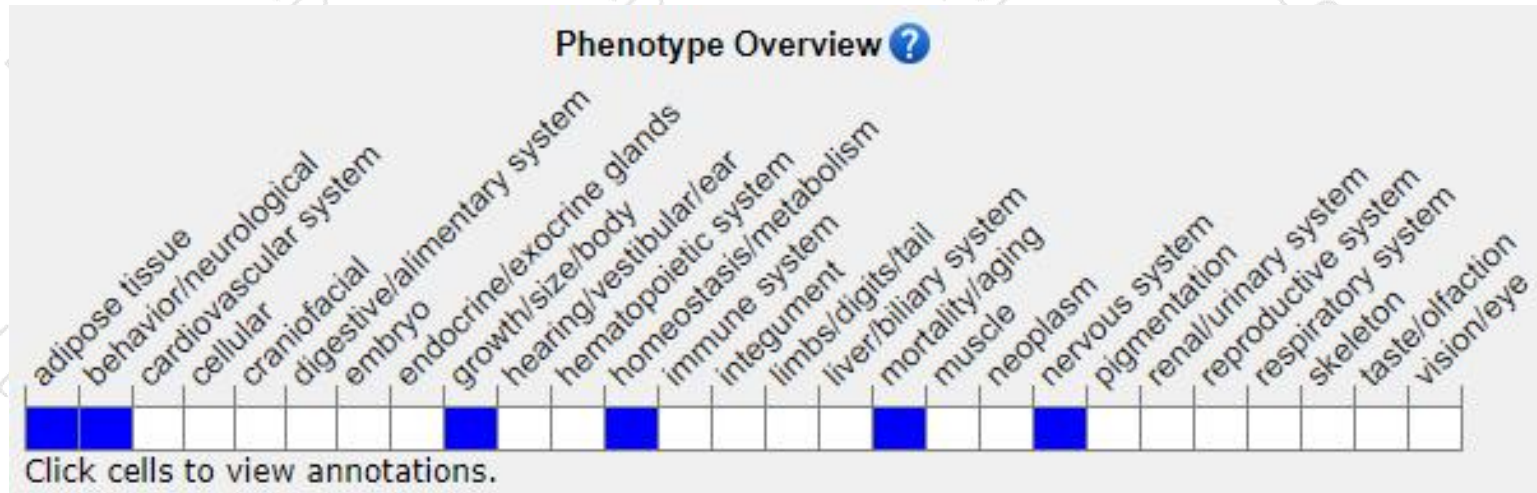
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Htr4-201	ENSMUST00000027560.7	4661	388aa	Protein coding	CCDS29291	P97288	TSL:1 GENCODE basic APPRIS P2
Htr4-203	ENSMUST00000237114.1	1389	377aa	Protein coding	-	-	GENCODE basic
Htr4-202	ENSMUST00000236691.1	1267	363aa	Protein coding	-	-	GENCODE basic
Htr4-204	ENSMUST00000238081.1	1203	387aa	Protein coding	-	-	GENCODE basic APPRIS ALT1

Genomic location distribution



Mouse phenotype description(MGI)



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

Homozygous mutant mice exhibit attenuated feeding behavior following stress and novelty and show a hypersensitivity to seizures.

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

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