

Htr1f Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Htr1f

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Htr1f* gene. The schematic diagram is as follows:



- The *Htr1f* gene has 1 transcript. According to the structure of *Htr1f* gene, exon3 of *Htr1f*-201 (ENSMUST00000063076.5) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Htr1f* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for disruptions in this gene display decreased temperature sensitivity and physiological abnormalities in nerve fibers.
- The *Htr1f* gene is located on the Chr16. 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)

Htr1f 5-hydroxytryptamine (serotonin) receptor 1F [Mus musculus (house mouse)]

Gene ID: 15557, updated on 31-Jan-2019

Summary



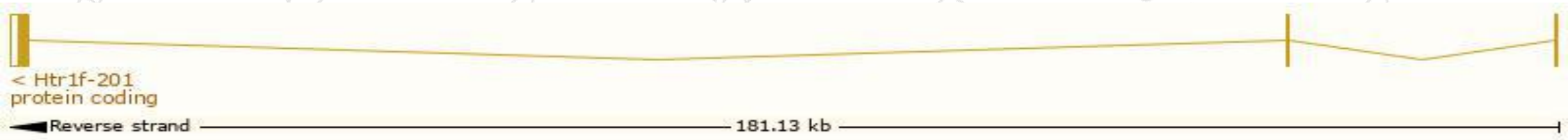
Official Symbol	Htr1f provided by MGI
Official Full Name	5-hydroxytryptamine (serotonin) receptor 1F provided by MGI
Primary source	MGI:MGI:99842
See related	Ensembl:ENSMUSG00000050783
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Htr1eb
Expression	Low expression observed in reference dataset See more
Orthologs	human all

Transcript information (Ensembl)

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

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Htr1f-201	ENSMUST00000063076.5	2579	366aa	Protein coding	CCDS28267	Q02284 Q543V2	TSL:1 GENCODE basic APPRIS P1

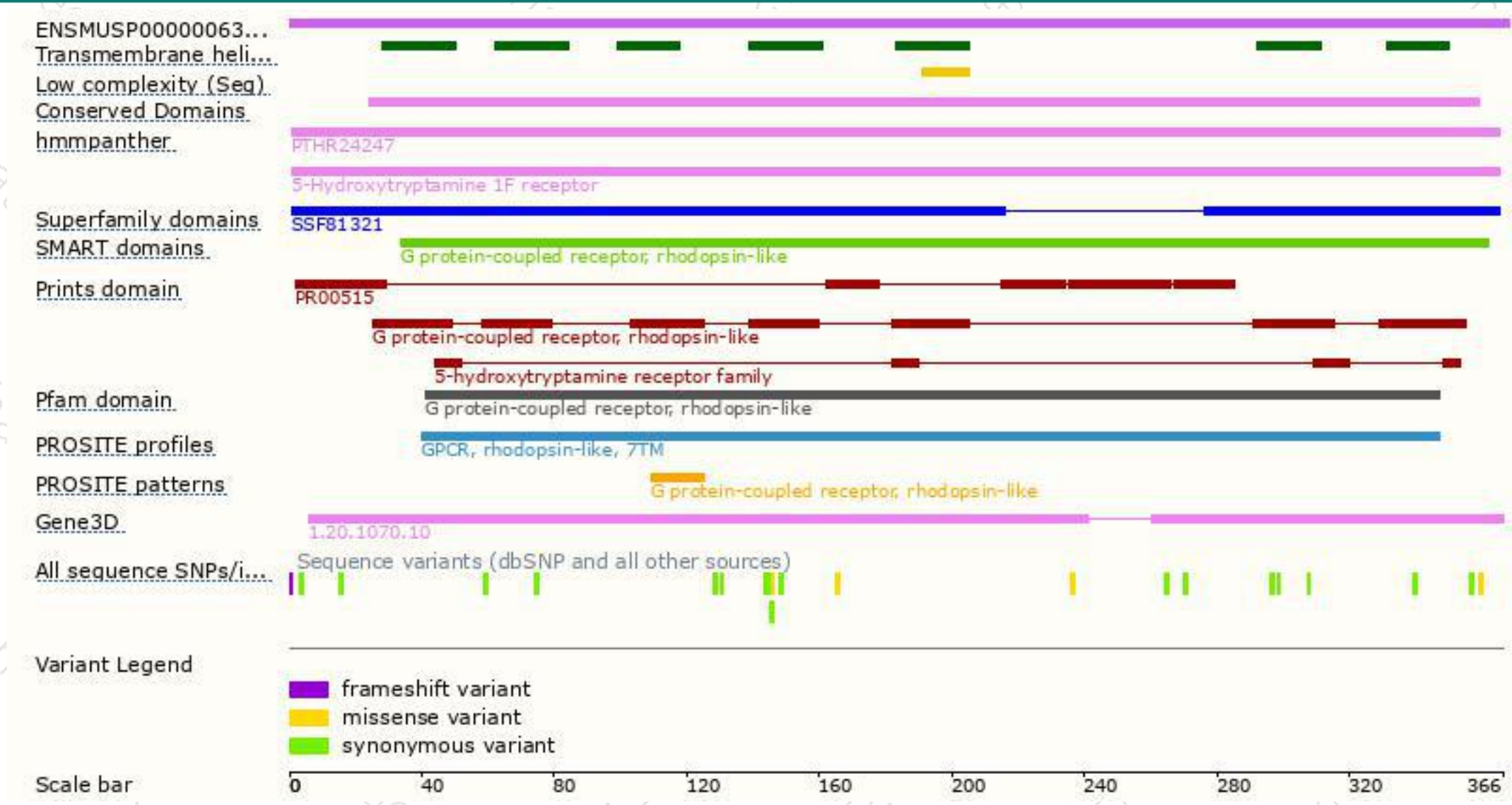
The strategy is based on the design of *Htr1f-201* transcript, The transcription is shown below



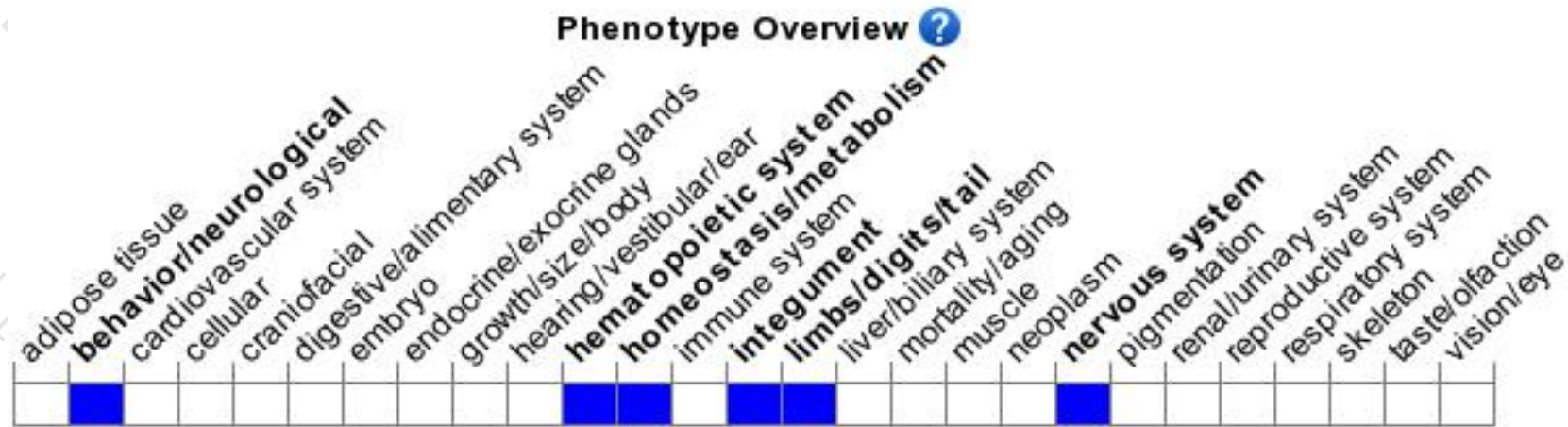
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



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

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

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