

Zswim5 Cas9-KO Strategy

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Project Overview

Project Name

Zswim5

Project type

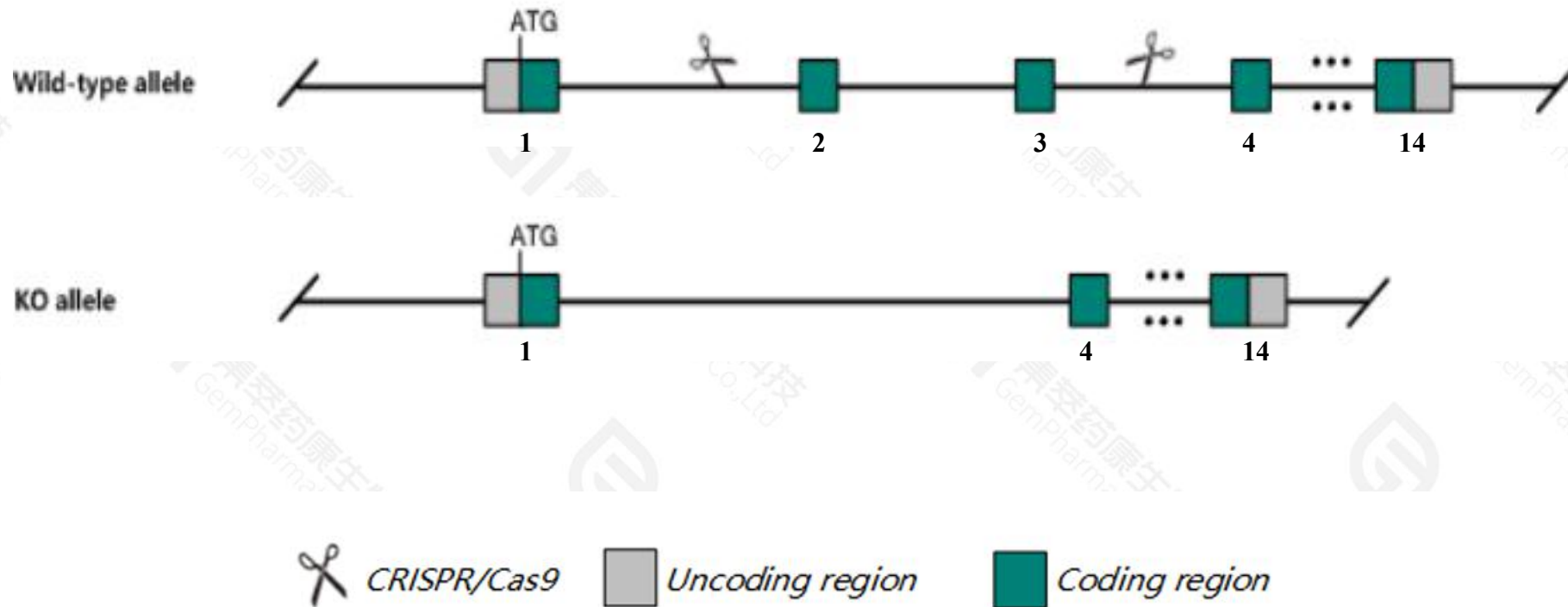
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zswim5* gene. The schematic diagram is as follows:



- The *Zswim5* gene has 1 transcript. According to the structure of *Zswim5* gene, exon2-exon3 of *Zswim5*-201(ENSMUST00000044823.4) transcript is recommended as the knockout region. The region contains 506bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zswim5* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt 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/6JGpt mice.

- The KO region contains functional region of the *Gm12998* gene. Knockout the region may affect the function of *Gm12998* gene.
- The *Zswim5* gene is located on the Chr4. 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.

Zswim5 zinc finger SWIM-type containing 5 [Mus musculus (house mouse)]

Gene ID: 74464, updated on 25-Sep-2020

Summary



Official Symbol Zswim5 provided by [MGI](#)

Official Full Name zinc finger SWIM-type containing 5 provided by [MGI](#)

Primary source [MGI:MGI:1921714](#)

See related [Ensembl:ENSMUSG00000033948](#)

Gene type protein coding

RefSeq status PROVISIONAL

Organism [Mus musculus](#)

Lineage Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus

Also known as 4933426E21Rik, AI503093, mKIAA1511

Expression Broad expression in whole brain E14.5 (RPKM 10.6), CNS E14 (RPKM 8.6) and 16 other tissues [See more](#)

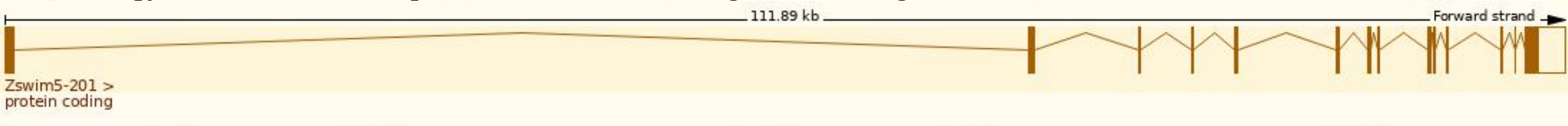
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

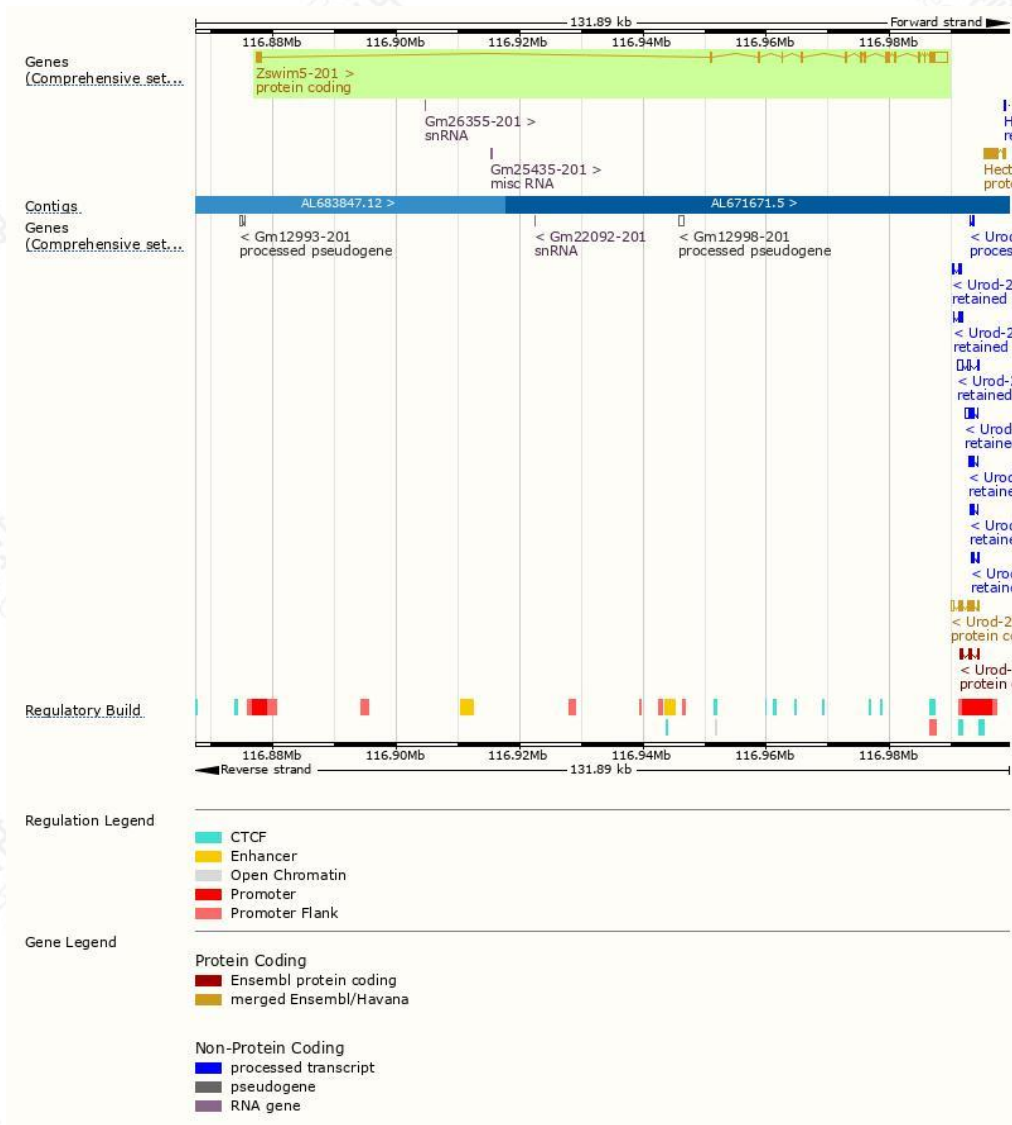
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zswim5-201	ENSMUST00000044823.4	5582	1188aa	Protein coding	CCDS18520		TSL:1 , GENCODE basic , APPRIS P1 ,

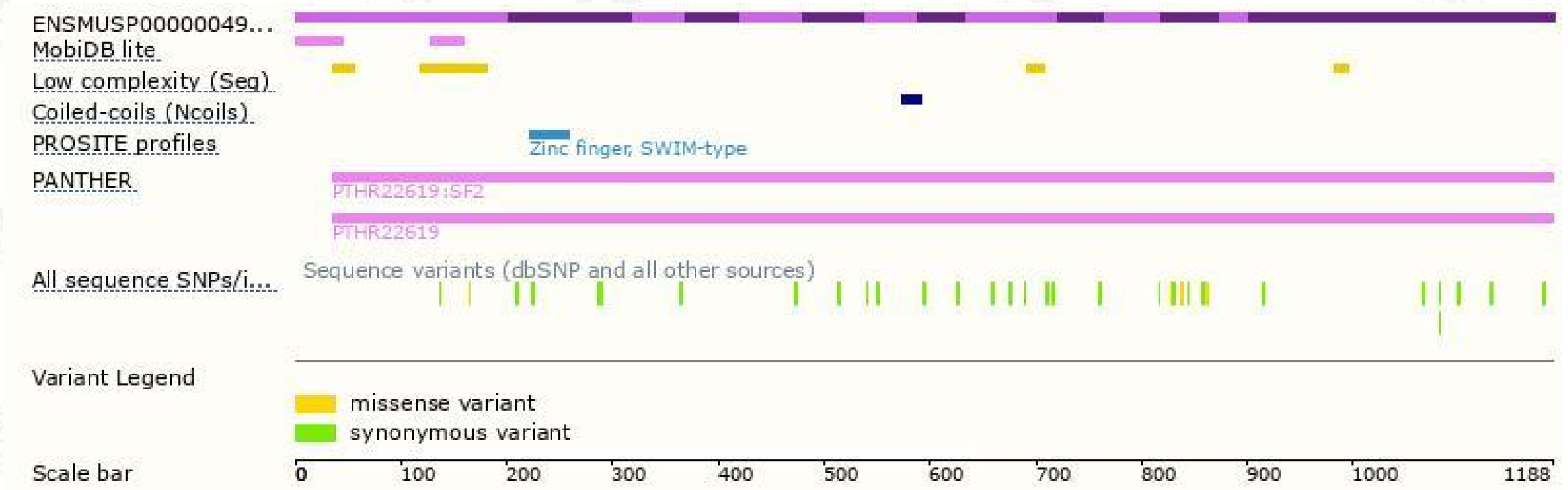
The strategy is based on the design of *Zswim5-201* transcript, the transcription is shown below:



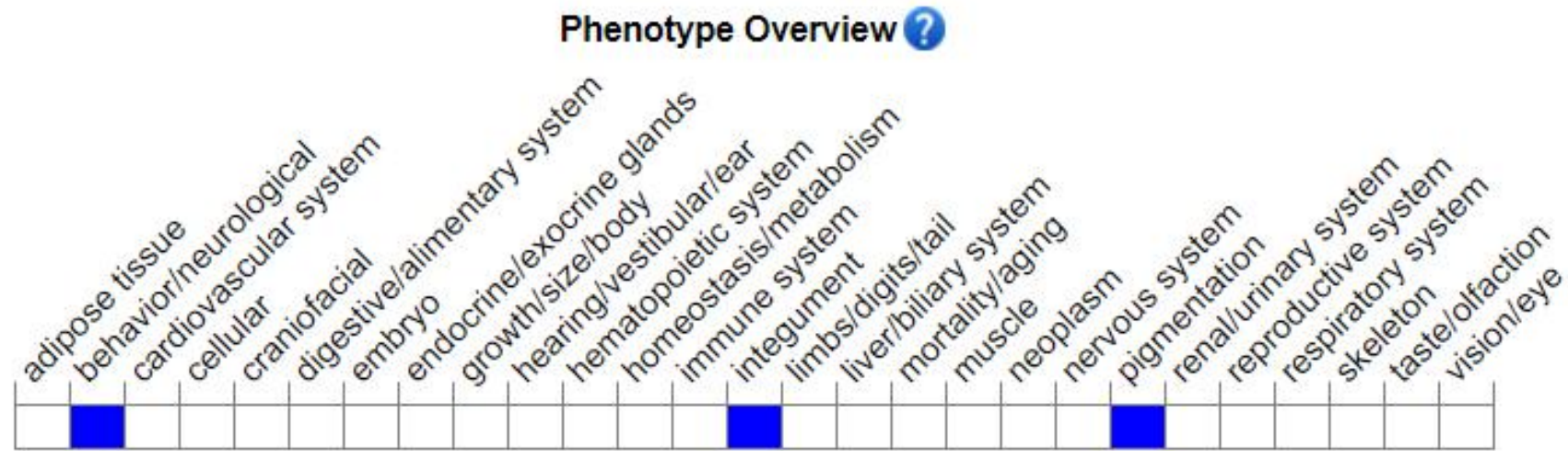
Genomic location distribution



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/>).

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