

Zfp462 Cas9-KO Strategy

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Project Overview

Project Name

Zfp462

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfp462* gene. The schematic diagram is as follows:



- The *Zfp462* gene has 4 transcripts. According to the structure of *Zfp462* gene, exon2-exon13 of *Zfp462-203* (ENSMUST00000098070.9) 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 *Zfp462* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Zfp462* 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.

Gene information (NCBI)

Zfp462 zinc finger protein 462 [*Mus musculus* (house mouse)]

Gene ID: 242466, updated on 12-Aug-2019

Summary

Official Symbol Zfp462 provided by [MGI](#)
Official Full Name zinc finger protein 462 provided by [MGI](#)
Primary source [MGI:MGI:107690](#)
See related [Ensembl:ENSMUSG00000060206](#)
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 Gt4-2; Zfpip; Znf462; 6030417H05; 9430078C22Rik
Expression Broad expression in CNS E11.5 (RPKM 12.4), whole brain E14.5 (RPKM 11.3) and 17 other tissues [See more](#)
Orthologs [human](#) [all](#)

Genomic context

Location: 4; 4 B2

See Zfp462 in [Genome Data Viewer](#)

Exon count: 19

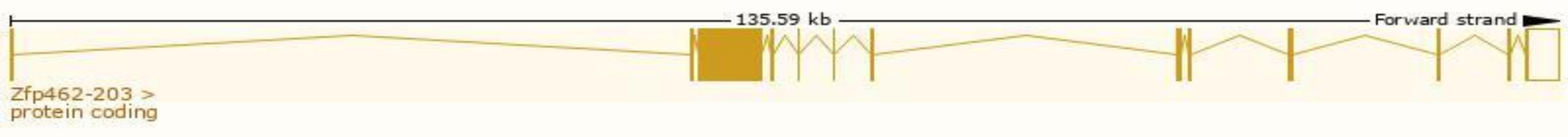
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	4	NC_000070.6 (54944491..55083563)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	4	NC_000070.5 (54960817..55096435)

Transcript information (Ensembl)

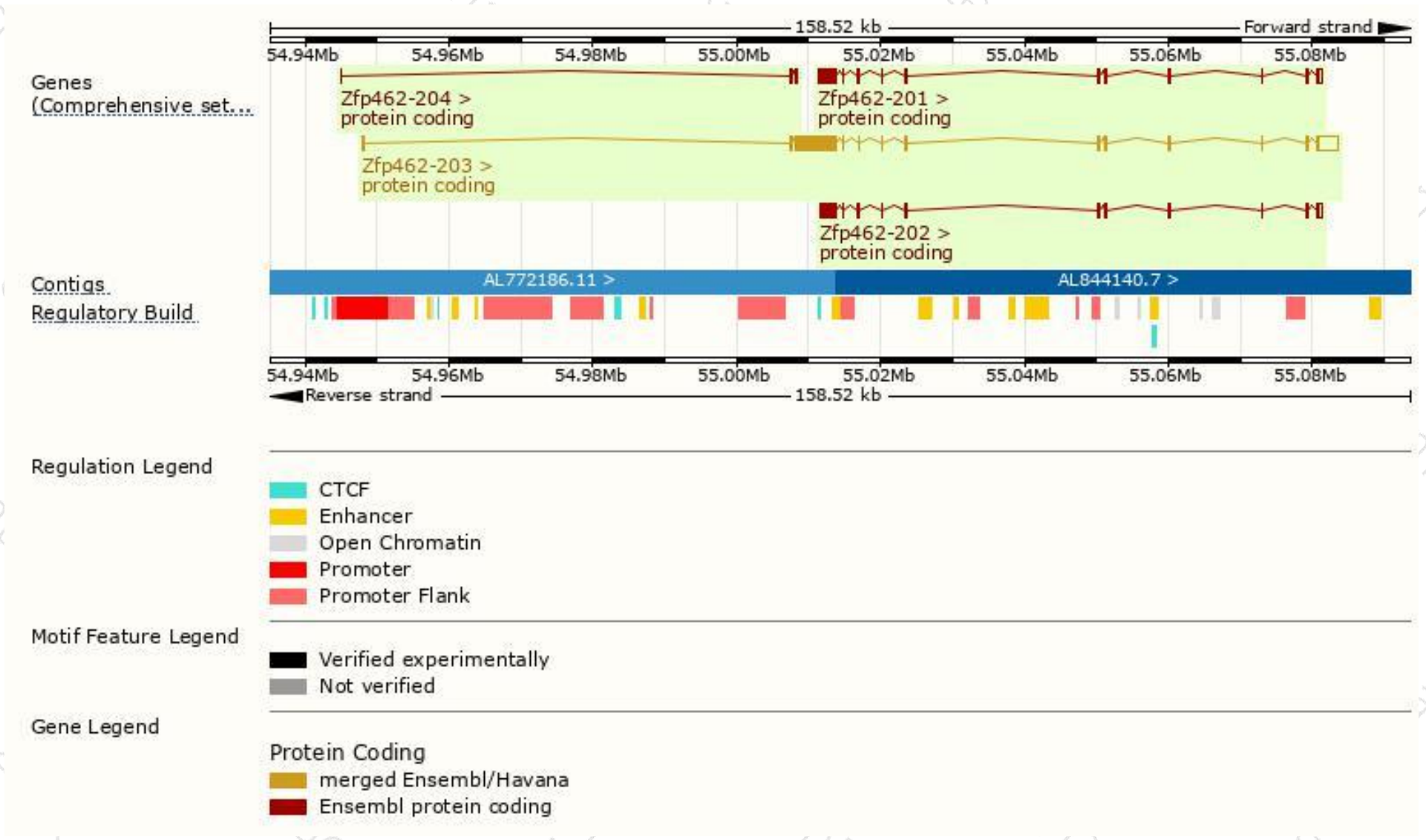
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfp462-203	ENSMUST00000098070.9	10465	2495aa	Protein coding	CCDS38764	B1AWL2	TSL:5 GENCODE basic APPRIS P2
Zfp462-201	ENSMUST00000030131.11	4823	1407aa	Protein coding	-	B1AWL4	TSL:5 GENCODE basic APPRIS ALT2
Zfp462-202	ENSMUST00000079605.4	4684	1408aa	Protein coding	-	B1AWL5	TSL:5 GENCODE basic APPRIS ALT2
Zfp462-204	ENSMUST00000133895.7	363	93aa	Protein coding	-	B1AWL3	CDS 3' incomplete TSL:5

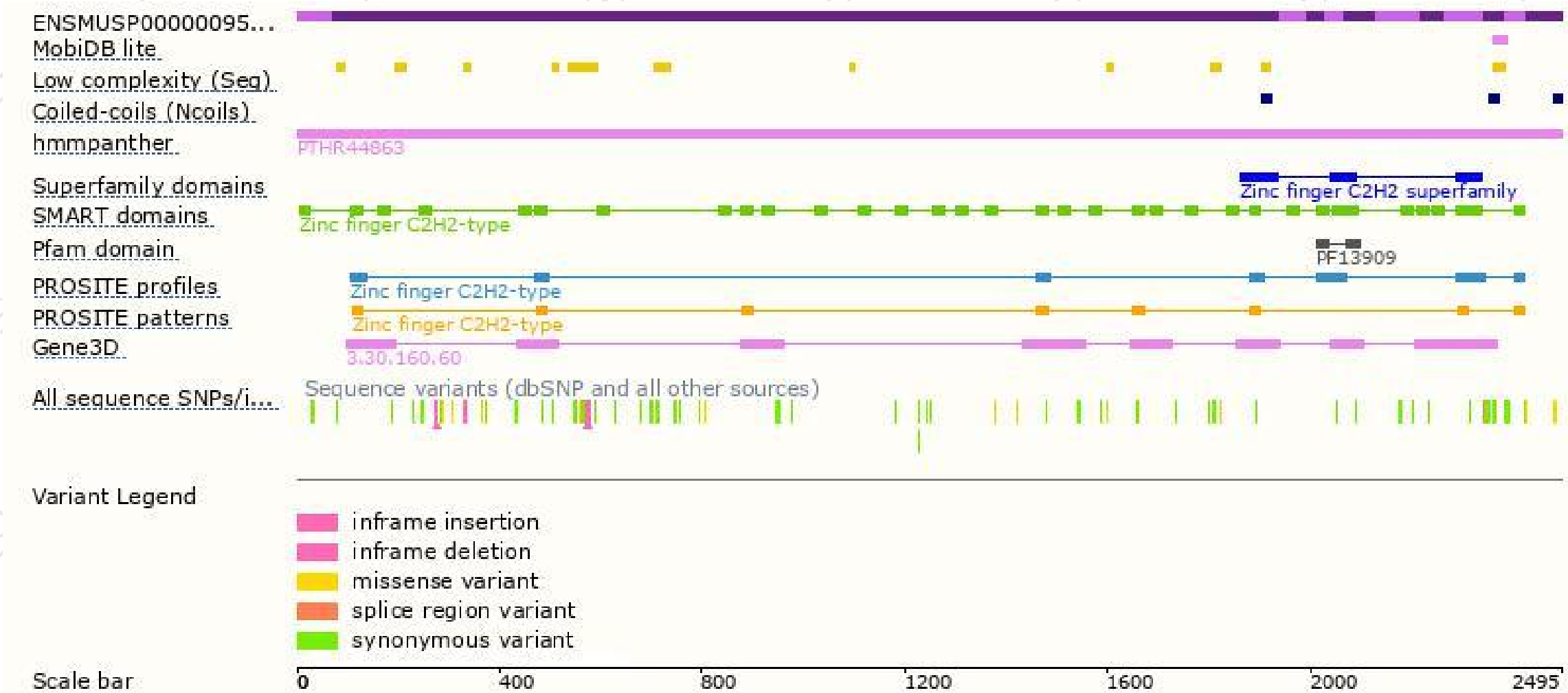
The strategy is based on the design of *Zfp462-203* transcript,The transcription is shown below



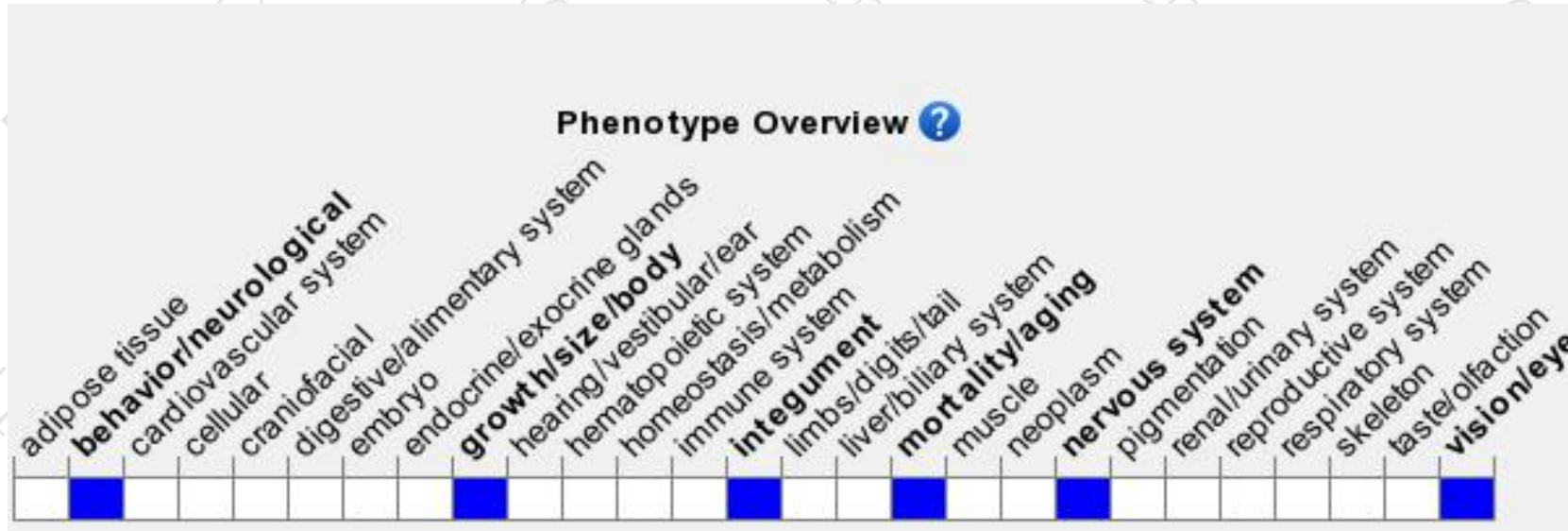
Genomic location distribution



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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