

Ywhab Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Ywhab

Project type

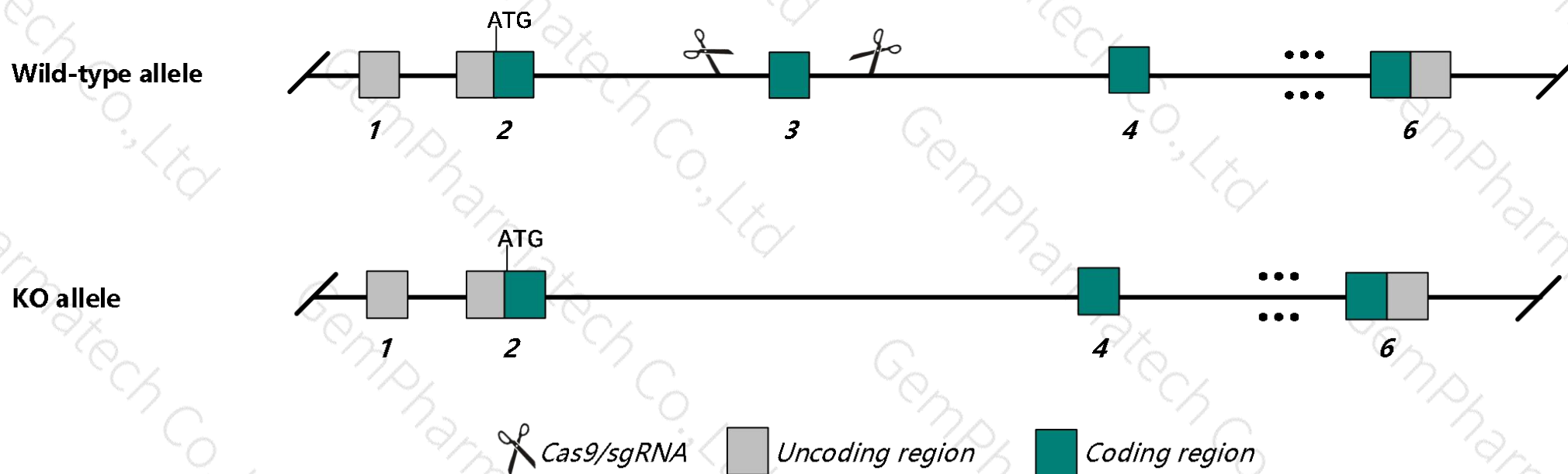
Cas9-KO

Strain background

C57BL/6J

Knockout strategy

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



Technical routes

- The *Ywhab* gene has 2 transcripts. According to the structure of *Ywhab* gene, exon3 of *Ywhab*-201(ENSMUST00000018470.9) transcript is recommended as the knockout region. The region contains 124bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ywhab* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6J 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/6J mice.

- The *Ywhab* gene is located on the Chr2. 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 gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information (NCBI)

Ywhab tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, beta polypeptide [*Mus musculus* (house mouse)]

Gene ID: 54401, updated on 7-Apr-2019

 Summary

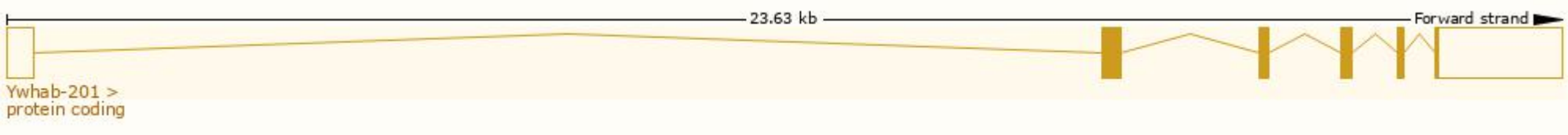
Official Symbol	Ywhab provided by MGI
Official Full Name	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, beta polypeptide provided by MGI
Primary source	MGI:MGI:1891917
See related	Ensembl:ENSMUSG00000018326
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	14-3-3b; 1300003C17Rik
Expression	Ubiquitous expression in cortex adult (RPKM 73.1), CNS E18 (RPKM 72.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

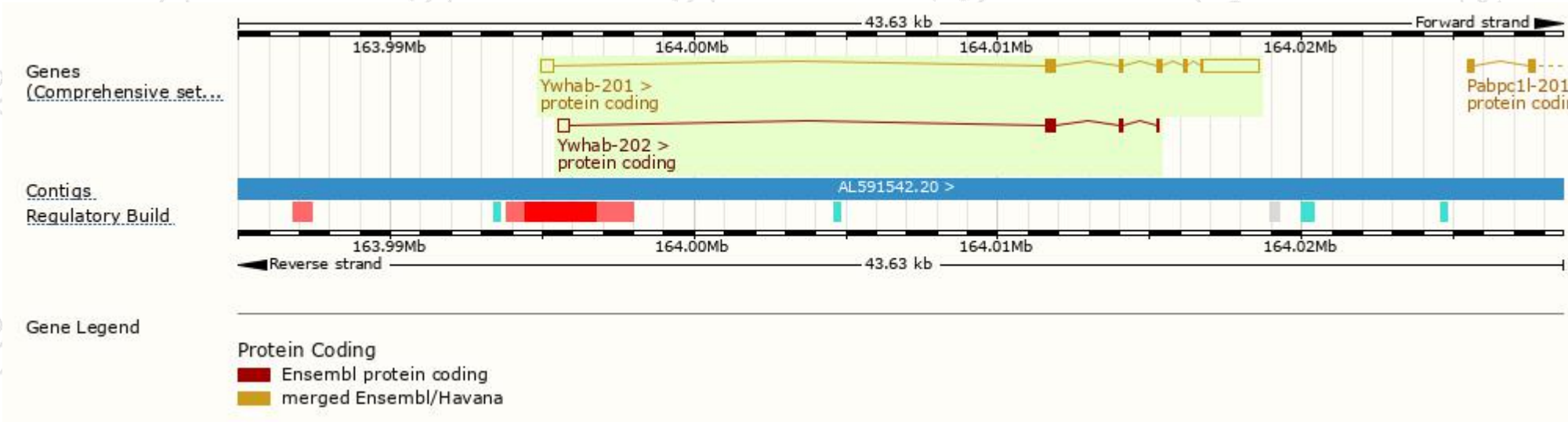
The gene has 2 transcripts, and all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ywhab-201	ENSMUST00000018470.9	3013	246aa	Protein coding	CCDS17019	A2A5N2 Q9CQV8	TSL:1 GENCODE basic APPRIS P1
Ywhab-202	ENSMUST000000131288.1	849	159aa	Protein coding	-	A2A5N1	CDS 3' incomplete TSL:3

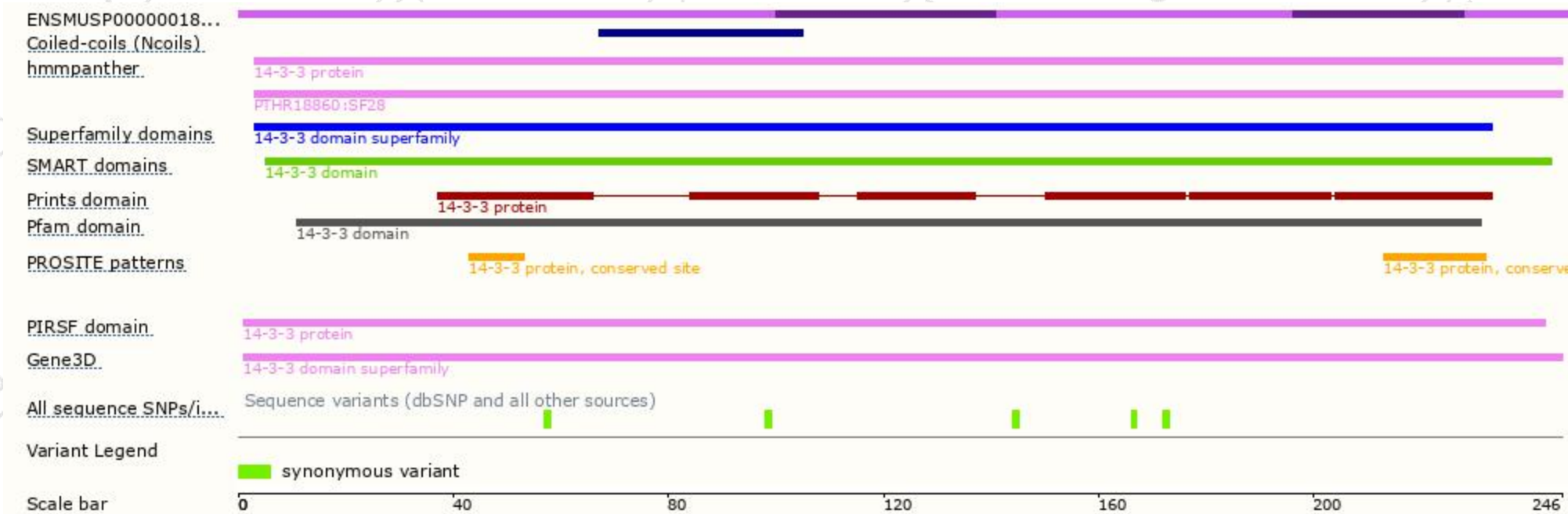
The strategy is based on the design of *Ywhab-201* transcript, The transcription is shown below



Genomic location (Ensembl)



Protein domain (Ensembl)



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

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