

Zkscan17 Cas9-KO Strategy

Designer: Huan Wang

Reviewer: Yumeng Wang

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Project Overview

Project Name

Zkscan17

Project type

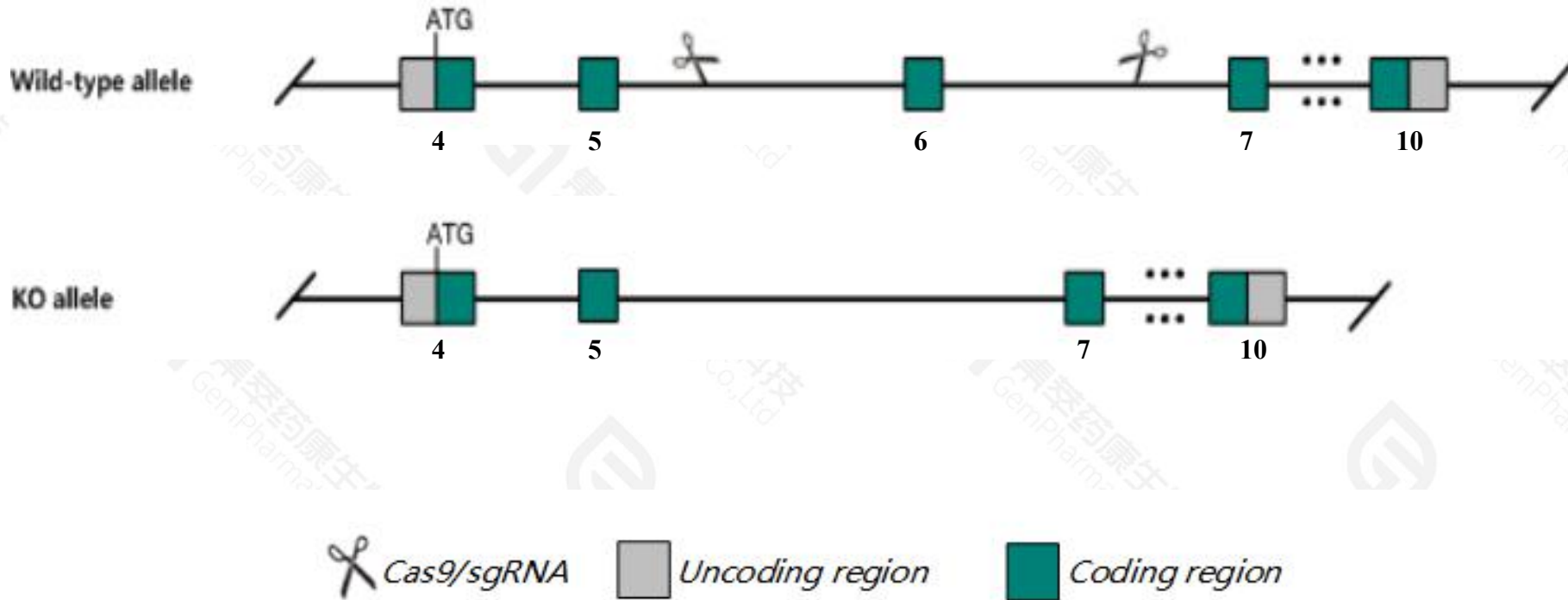
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zkscan17* gene. The schematic diagram is as follows:



- The *Zkscan17* gene has 6 transcripts. According to the structure of *Zkscan17* gene, exon6 of *Zkscan17-201*(ENSMUST00000013262.15) transcript is recommended as the knockout region. The region contains 77bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zkscan17* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA 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 *Zkscan17* gene is located on the Chr11. 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.

Zkscan17 zinc finger with KRAB and SCAN domains 17 [Mus musculus (house mouse)]

Gene ID: 268417, updated on 17-Dec-2020

Summary



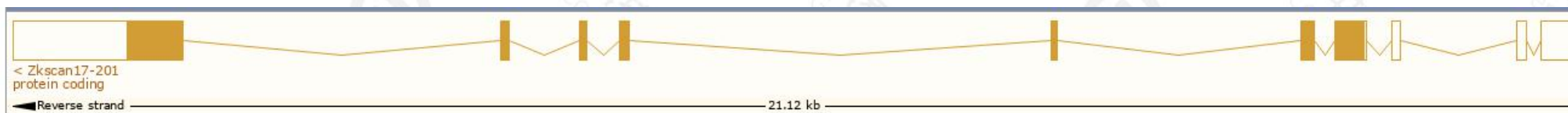
Official Symbol	Zkscan17 provided by MGI
Official Full Name	zinc finger with KRAB and SCAN domains 17 provided by MGI
Primary source	MGI:MGI:2679270
See related	Ensembl:ENSMUSG00000020472
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Ni, Nizp1, Zfp49, Zfp496, Znf496
Expression	Ubiquitous expression in testis adult (RPKM 32.5), ovary adult (RPKM 10.5) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

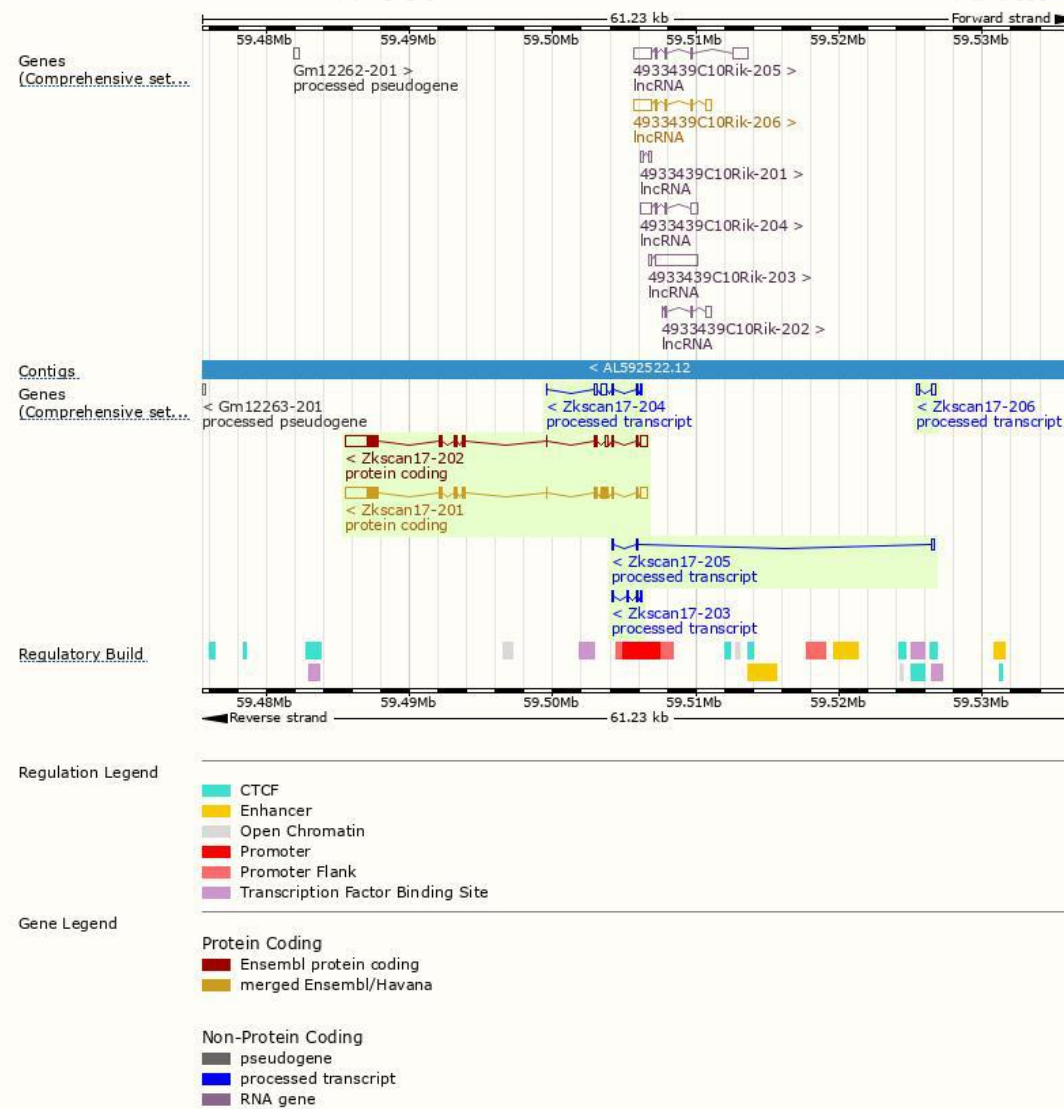
The gene has 6 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zkscan17-201	ENSMUST00000013262.15	4064	585aa	Protein coding	CCDS24770		TSL:1 , GENCODE basic , APPRIS P1 ,
Zkscan17-202	ENSMUST000000101150.9	3771	429aa	Protein coding	CCDS70197		TSL:1 , GENCODE basic ,
Zkscan17-204	ENSMUST000000134522.8	937	No protein	Processed transcript	-		TSL:5 ,
Zkscan17-203	ENSMUST000000129941.2	423	No protein	Processed transcript	-		TSL:3 ,
Zkscan17-205	ENSMUST000000139093.8	361	No protein	Processed transcript	-		TSL:2 ,
Zkscan17-206	ENSMUST000000139707.2	360	No protein	Processed transcript	-		TSL:3 ,

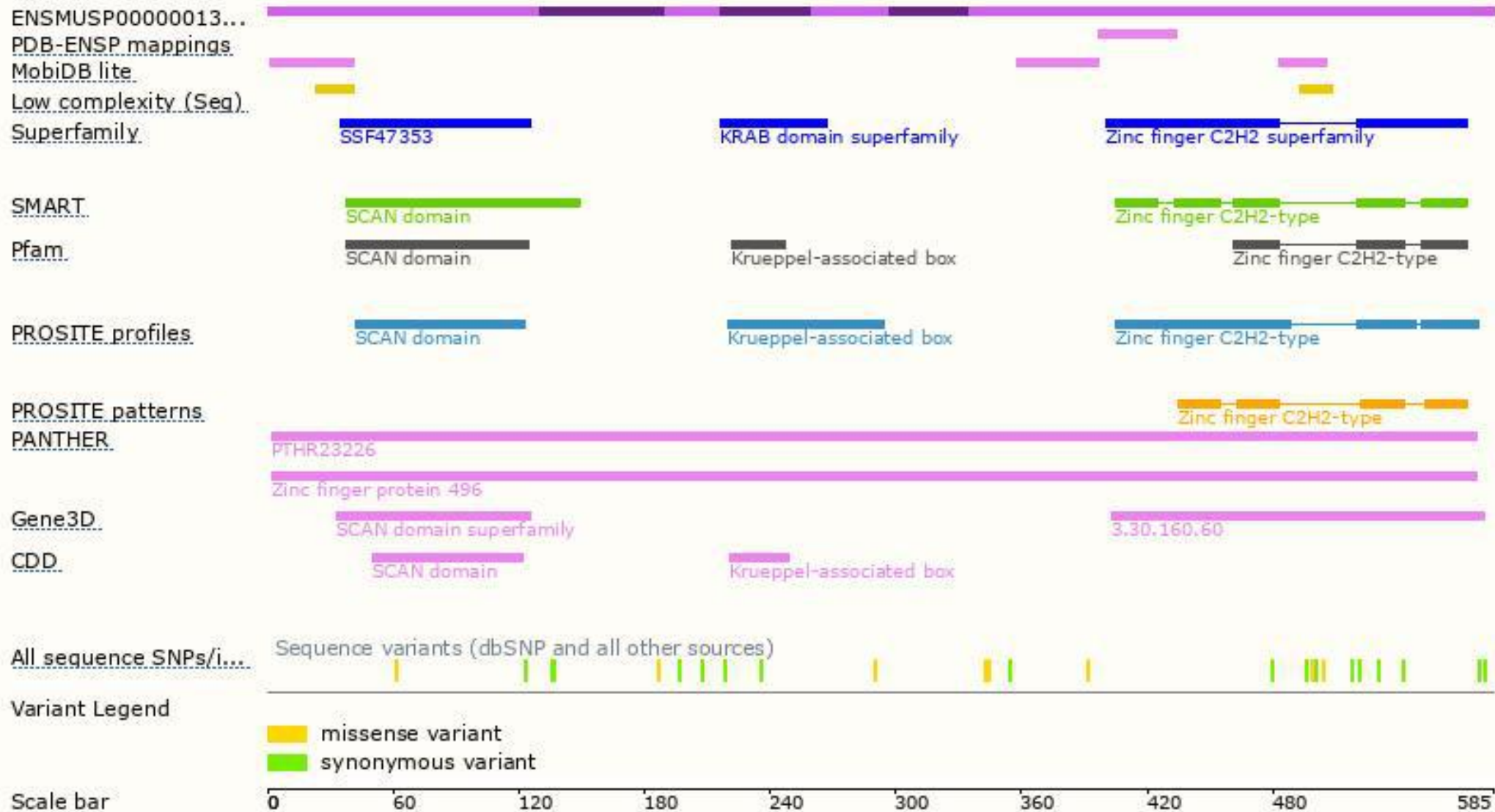
The strategy is based on the design of *Zkscan17-201* transcript, the transcription is shown below:



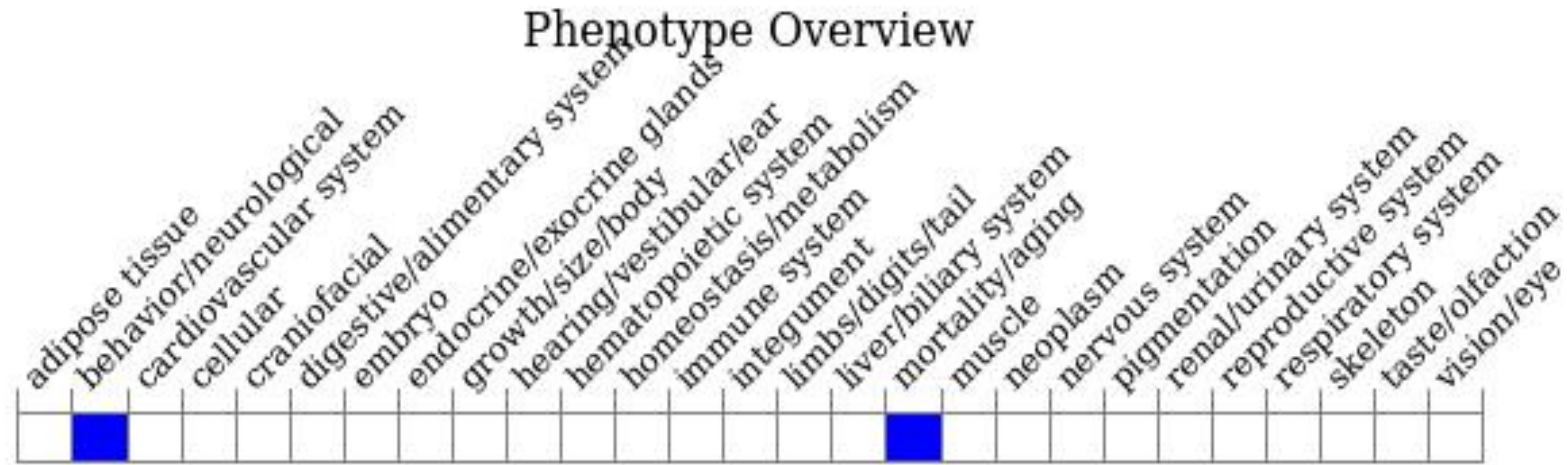
Genomic location distribution



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.

Tel: 025-5864 1534

