

***Zkscan1* Cas9-KO Strategy**

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Project Overview

Project Name

Zkscan1

Project type

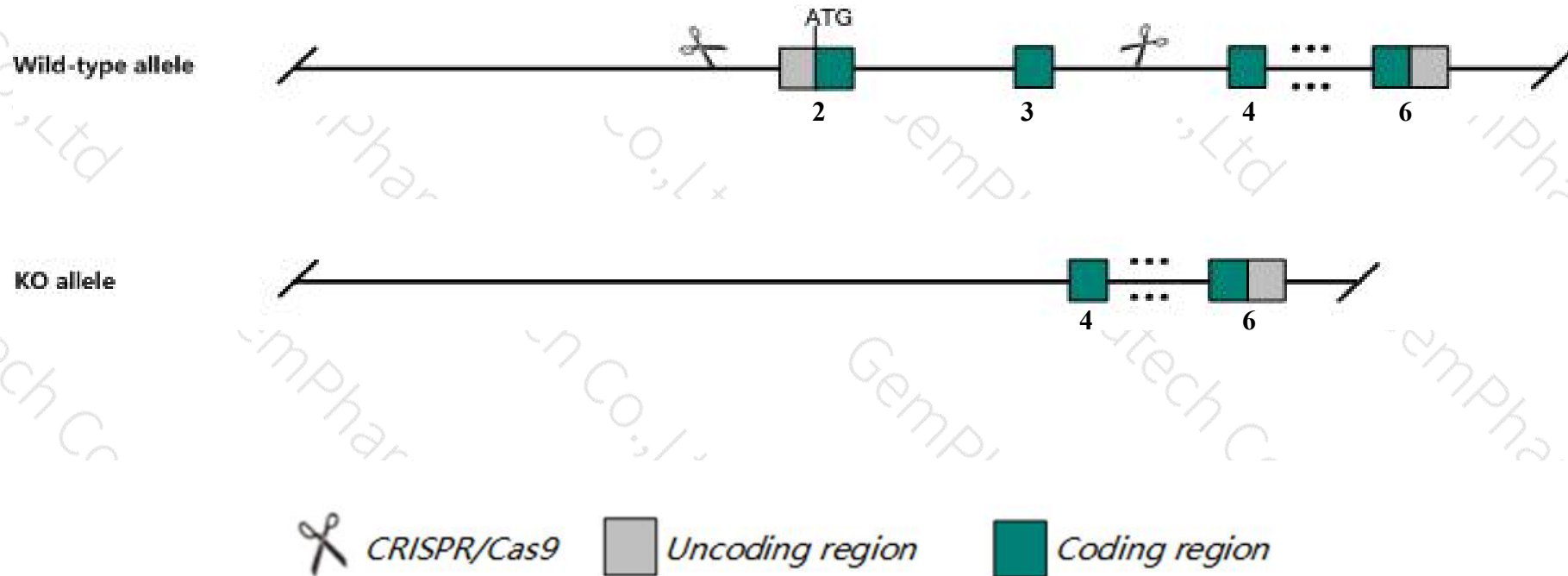
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zkscan1* gene. The schematic diagram is as follows:



- The *Zkscan1* gene has 4 transcripts. According to the structure of *Zkscan1* gene, exon2-exon3 of *Zkscan1-201* (ENSMUST00000019660.10) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zkscan1* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Zkscan1* gene is located on the Chr5. 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)

Zkscan1 zinc finger with KRAB and SCAN domains 1 [Mus musculus (house mouse)]

Gene ID: 74570, updated on 31-Jan-2019

Summary



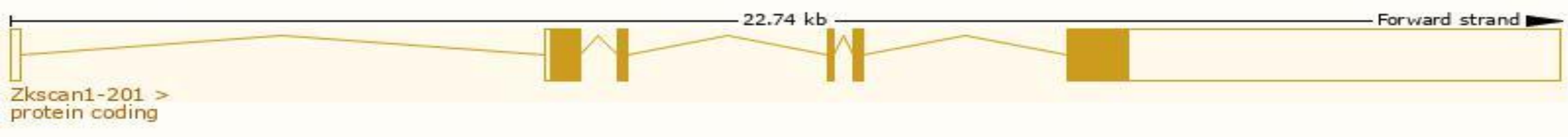
Official Symbol	Zkscan1 provided by MGI
Official Full Name	zinc finger with KRAB and SCAN domains 1 provided by MGI
Primary source	MGI:MGI:1921820
See related	Ensembl:ENSMUSG00000029729
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	5930429A01Rik, 9130423L19Rik, 9230118B16Rik, AI646829, AI788588, C87323, KOX18, PHZ-37, ZNF139
Expression	Ubiquitous expression in CNS E11.5 (RPKM 6.8), whole brain E14.5 (RPKM 6.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

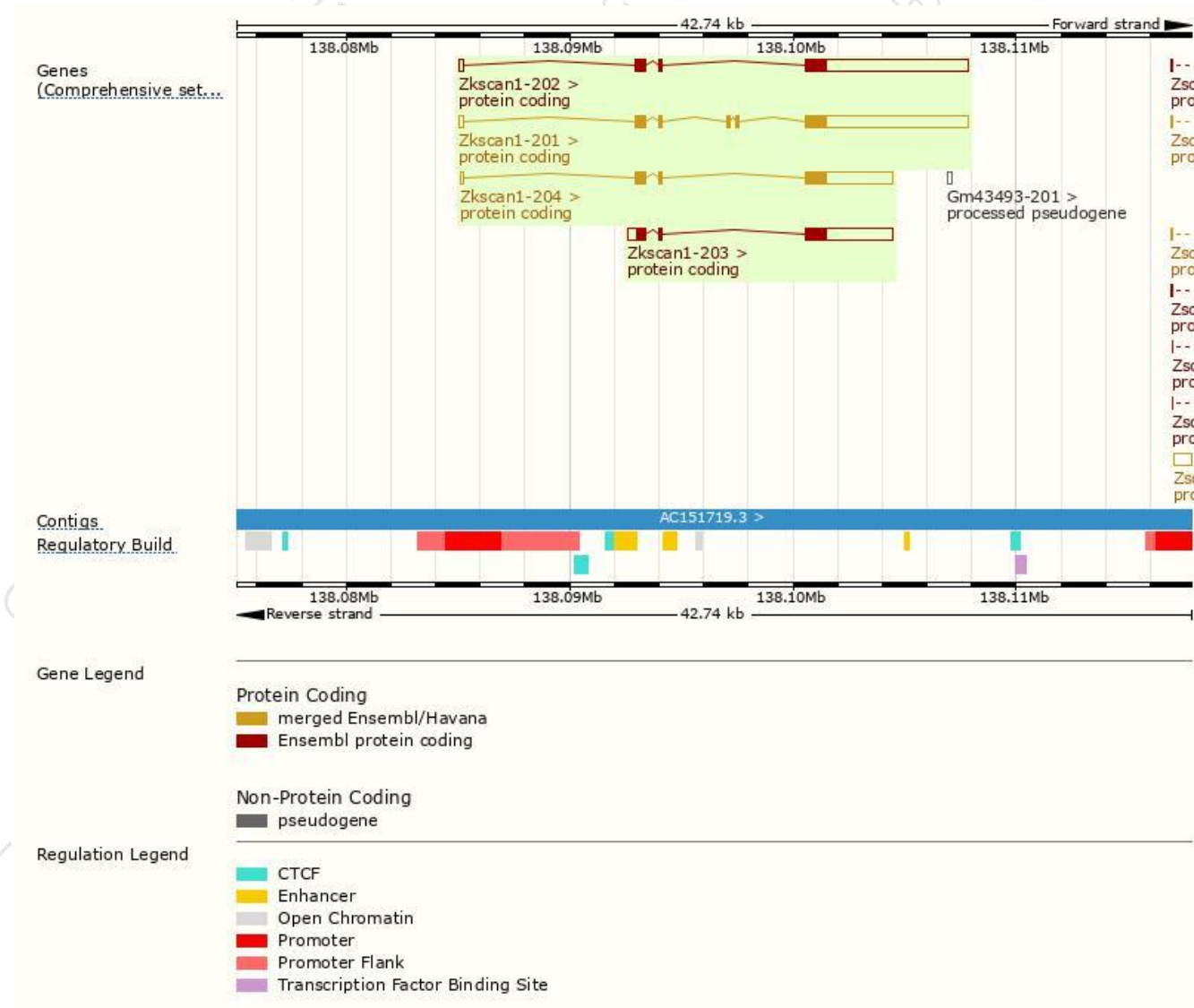
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zkscan1-201	ENSMUST00000019660.10	8261	561aa	Protein coding	CCDS19789	Q8BGS3	TSL:1 GENCODE basic APPRIS P1
Zkscan1-202	ENSMUST00000066617.11	8042	488aa	Protein coding	CCDS19788	Q8BGS3	TSL:5 GENCODE basic
Zkscan1-203	ENSMUST00000110962.1	4843	488aa	Protein coding	CCDS19788	Q8BGS3	TSL:1 GENCODE basic
Zkscan1-204	ENSMUST00000110963.7	4670	488aa	Protein coding	CCDS19788	Q8BGS3	TSL:1 GENCODE basic

The strategy is based on the design of *Zkscan1-201* transcript,The transcription is shown below



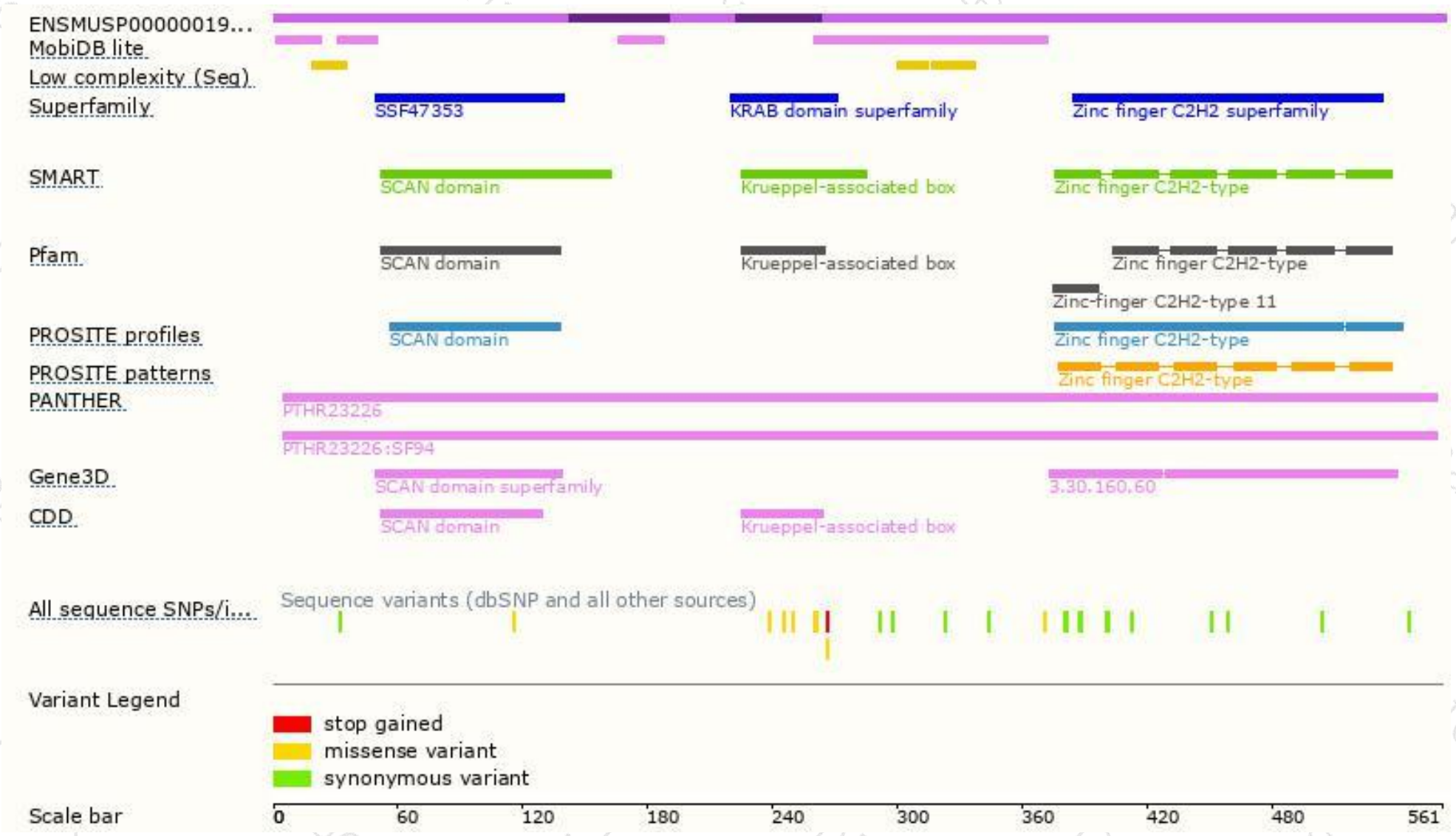
Genomic location distribution



Protein domain



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

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