

***Kbtbd8* Cas9-KO Strategy**

Designer: Yanhua Shen

Reviewer: Xueting Zhang

Design Date: 2020-2-5

Project Overview

Project Name

Kbtbd8

Project type

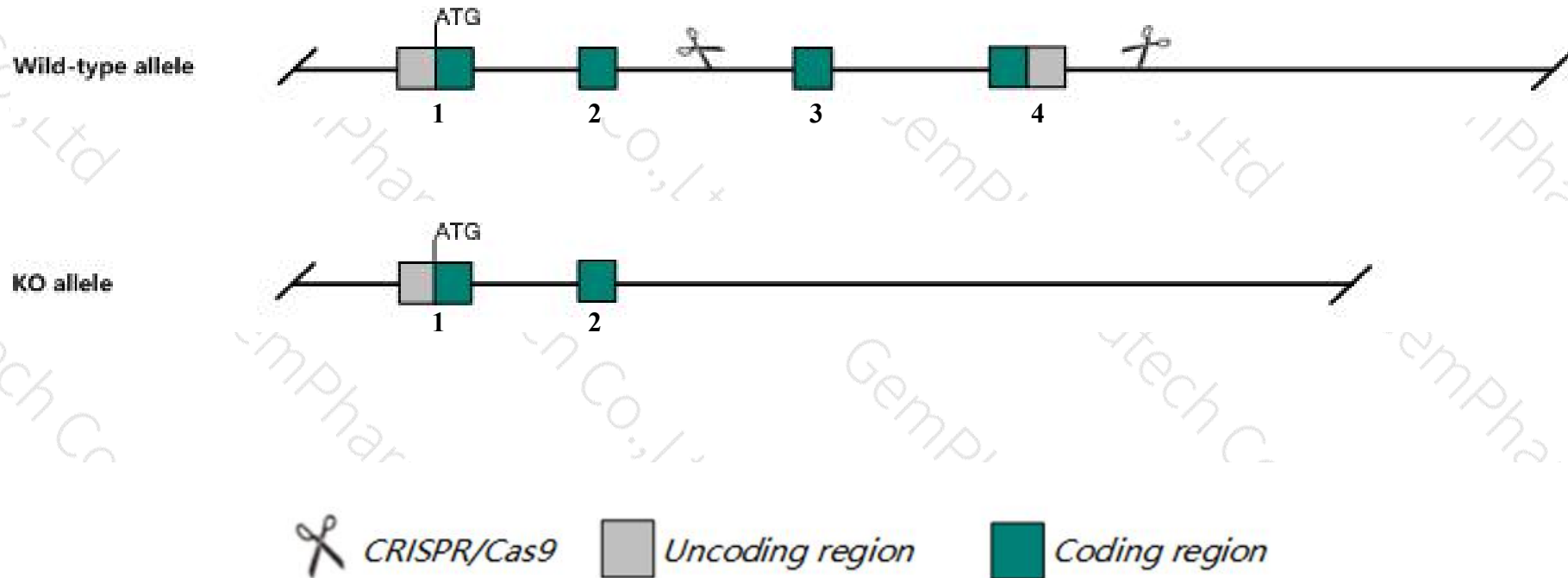
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Kbtbd8* gene. The schematic diagram is as follows:



- The *Kbtbd8* gene has 4 transcripts. According to the structure of *Kbtbd8* gene, exon3-exon4 of *Kbtbd8-201* (ENSMUST00000032107.9) transcript is recommended as the knockout region. The region contains most of coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Kbtbd8* gene. The brief process is as follows: CRISPR/Cas9 system v

- The effect of transcript 203 is unknown.
- The *Kbtbd8* gene is located on the Chr6. 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)

Kbtbd8 kelch repeat and BTB (POZ) domain containing 8 [*Mus musculus* (house mouse)]

Gene ID: 243574, updated on 12-Aug-2019

Summary

Official Symbol	Kbtbd8 provided by MGI
Official Full Name	kelch repeat and BTB (POZ) domain containing 8 provided by MGI
Primary source	MGI:MGI:2661430
See related	Ensembl:ENSMUSG00000030031
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	Takrp; SSEC51; SSEC-51; AU040152; mKIAA1842
Expression	Broad expression in liver E14 (RPKM 2.0), CNS E11.5 (RPKM 1.6) and 21 other tissues See more
Orthologs	human all

Genomic context

Location: 6; 6 D2

Exon count: 4

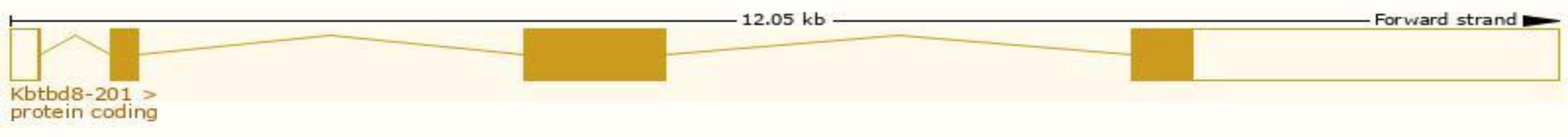
See Kbtbd8 in [Genome Data Viewer](#)

Transcript information (Ensembl)

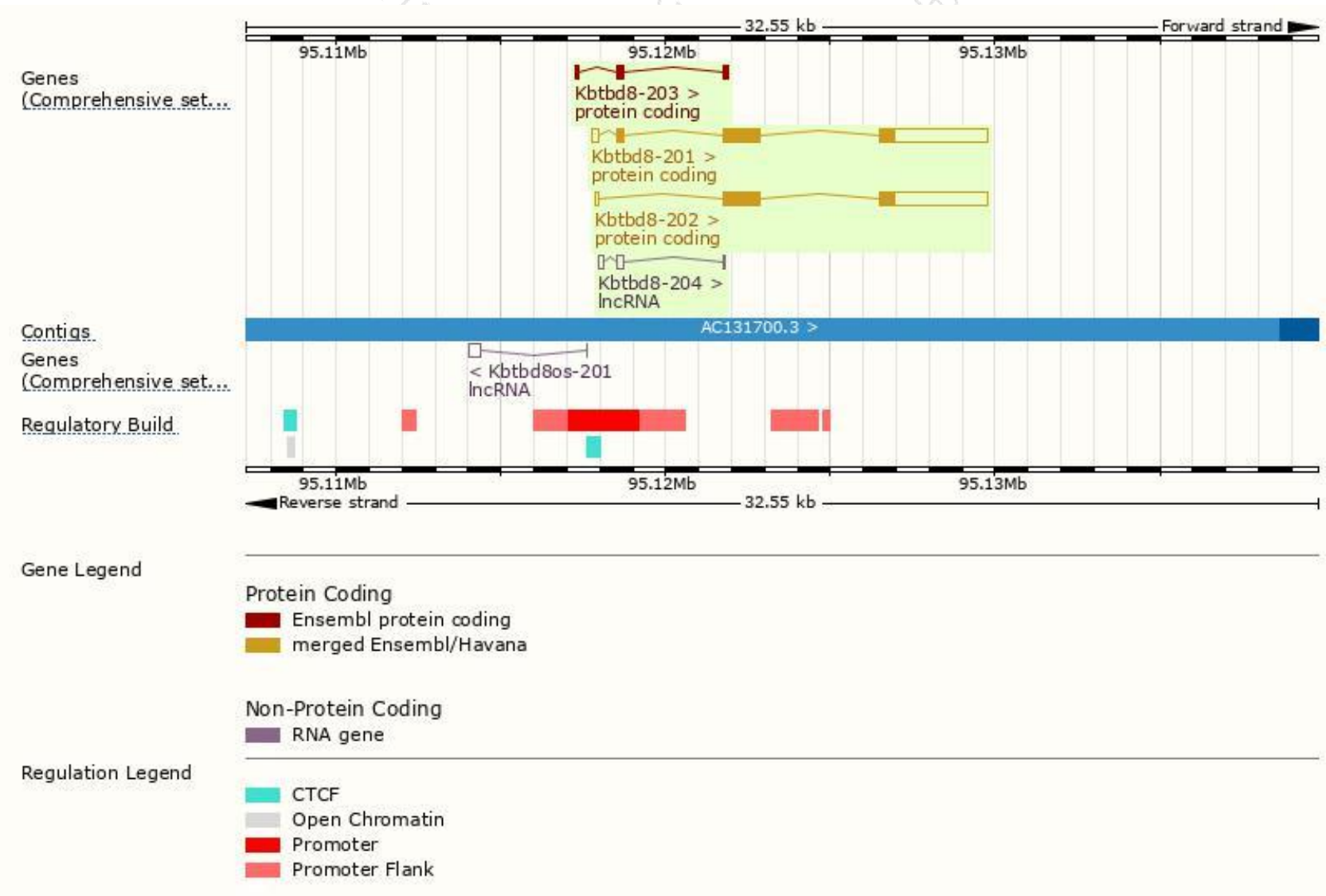
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Kbtbd8-201	ENSMUST00000032107.9	4869	599aa	Protein coding	CCDS51856	Q3UQV5	TSL:1 GENCODE basic APPRIS P1
Kbtbd8-202	ENSMUST00000119582.2	4518	522aa	Protein coding	CCDS51857	Q3UQV5	TSL:1 GENCODE basic
Kbtbd8-203	ENSMUST00000122938.7	472	142aa	Protein coding	-	A0A0N4SV97	CDS 3' incomplete TSL:3
Kbtbd8-204	ENSMUST00000145387.1	385	No protein	lncRNA	-	-	TSL:3

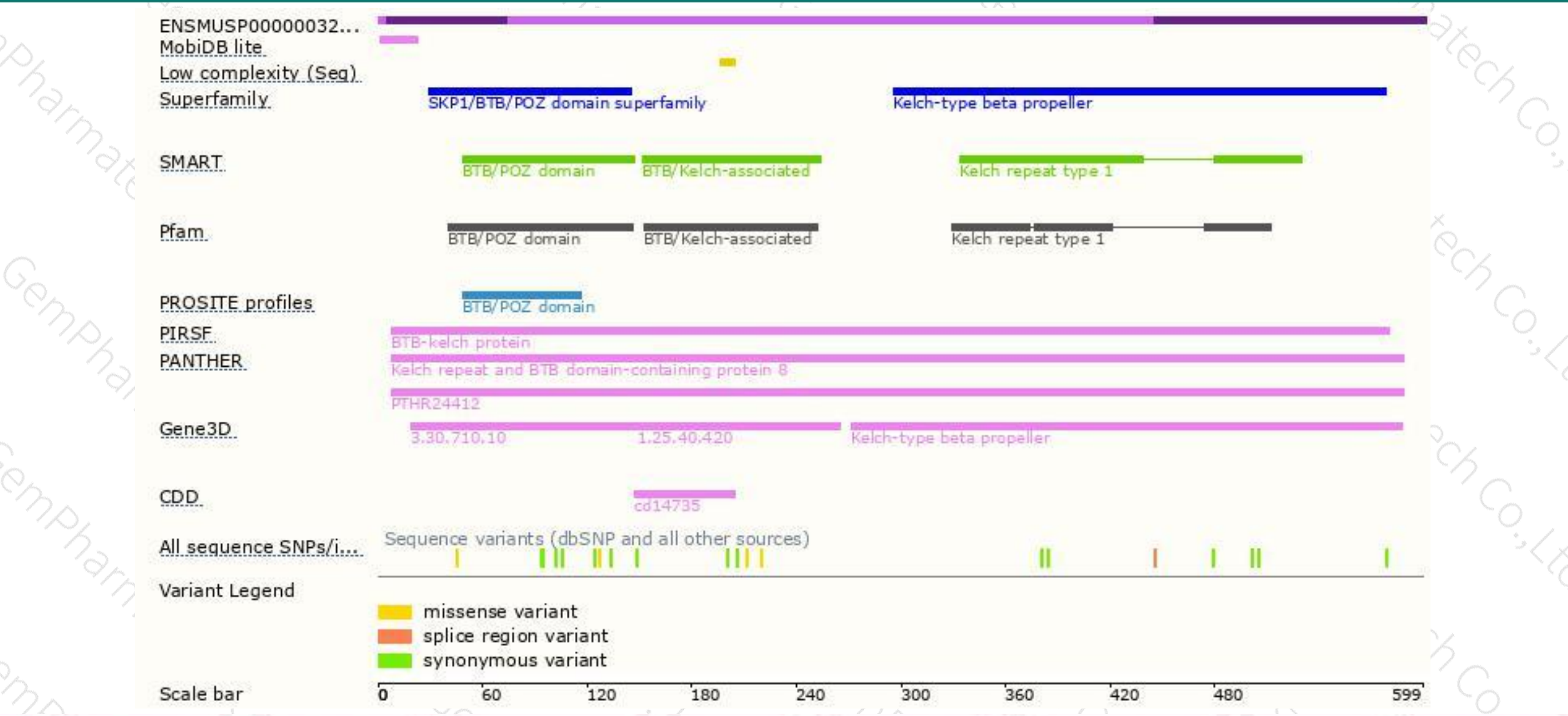
The strategy is based on the design of *Kbtbd8-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

