Jade2 Cas9-KO Strategy

Designer: Yanhua Shen
Reviewer：Xueting Zhang
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Project Overview

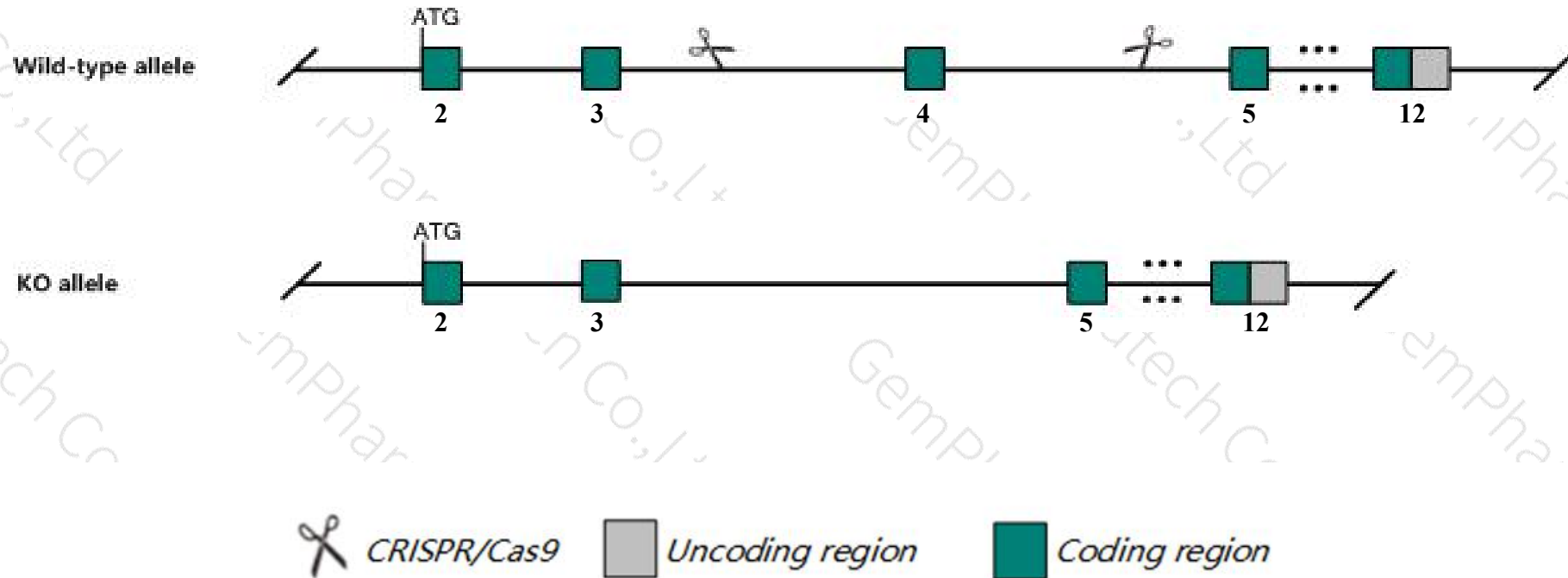|	
Project Name	*Jade2*
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

This model will use CRISPR/Cas9 technology to edit the *Jade2* gene. The schematic diagram is as follows:

Technical routes

➢ The *Jade2* gene has 4 transcripts. According to the structure of *Jade2* gene, exon4 of *Jade2-201* (ENSMUST00000020655.13) transcript is recommended as the knockout region.The region contains 158bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Jade2* gene. The brief process is as follows: CRISPR/Cas9 system

➢Transcript 204 may not be affected.

➢The *Jade2* 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.

Gene information （NCBI）

Jade2 jade family PHD finger 2 [*Mus musculus* (house mouse)]

Gene ID: 76901, updated on 12-Aug-2019

▲ Summary

Official Symbol	Jade2 provided by MGI
Official Full Name	jade family PHD finger 2 provided by MGI
Primary source	MGI:MGI:1924151
See related	Ensembl:ENSMUSG00000020387
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	Phf15; AI480685; mKIAA0239; 1200017K05Rik
Expression	Broad expression in thymus adult (RPKM 14.2), lung adult (RPKM 11.2) and 20 other tissues See more
Orthologs	human all

▲ Genomic context

Location: 11; 11 B1.3

See Jade2 in Genome Data Viewer

Exon count: 17

Transcript information（Ensembl）

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

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Jade2-201	ENSMUST00000020655.13	6273	829aa	Protein coding	CCDS24662	Q6ZQF7	TSL:1 GENCODE basic APPRIS P2
Jade2-203	ENSMUST00000109091.1	6099	829aa	Protein coding	CCDS24662	Q6ZQF7	TSL:1 GENCODE basic APPRIS P2
Jade2-202	ENSMUST00000109090.7	6230	576aa	Protein coding	-	A2AA59	TSL:1 GENCODE basic APPRIS ALT2
Jade2-204	ENSMUST00000151277.1	4552	No protein	lncRNA	-	-	TSL:1

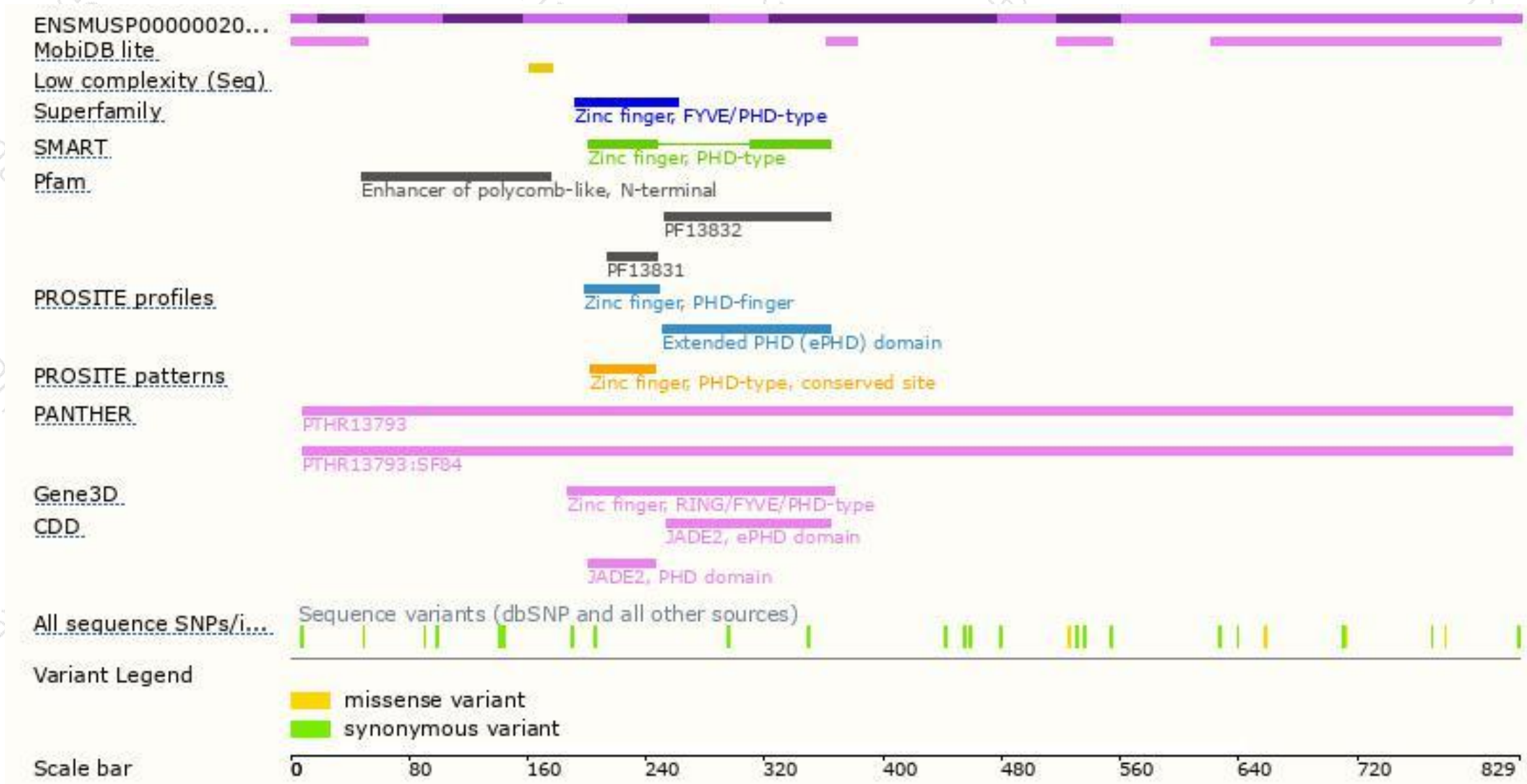The strategy is based on the design of *Jade2-201* transcript,The transcription is shown below

< Jade2-201
protein coding

◄ Reverse strand

44.20 kb
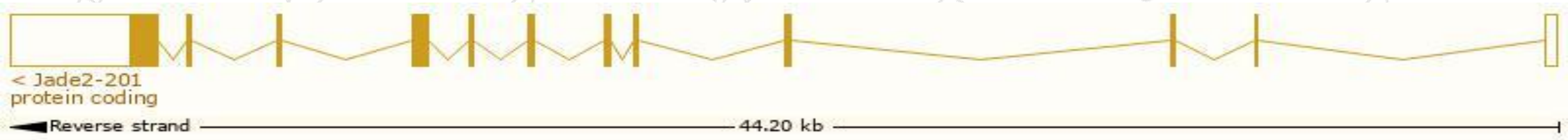
Genomic location distribution

Protein domain

| | Scale bar | 0 | 80 | 160 | 240 | 320 | 400 | 480 | 560 | 640 | 720 | 829 |
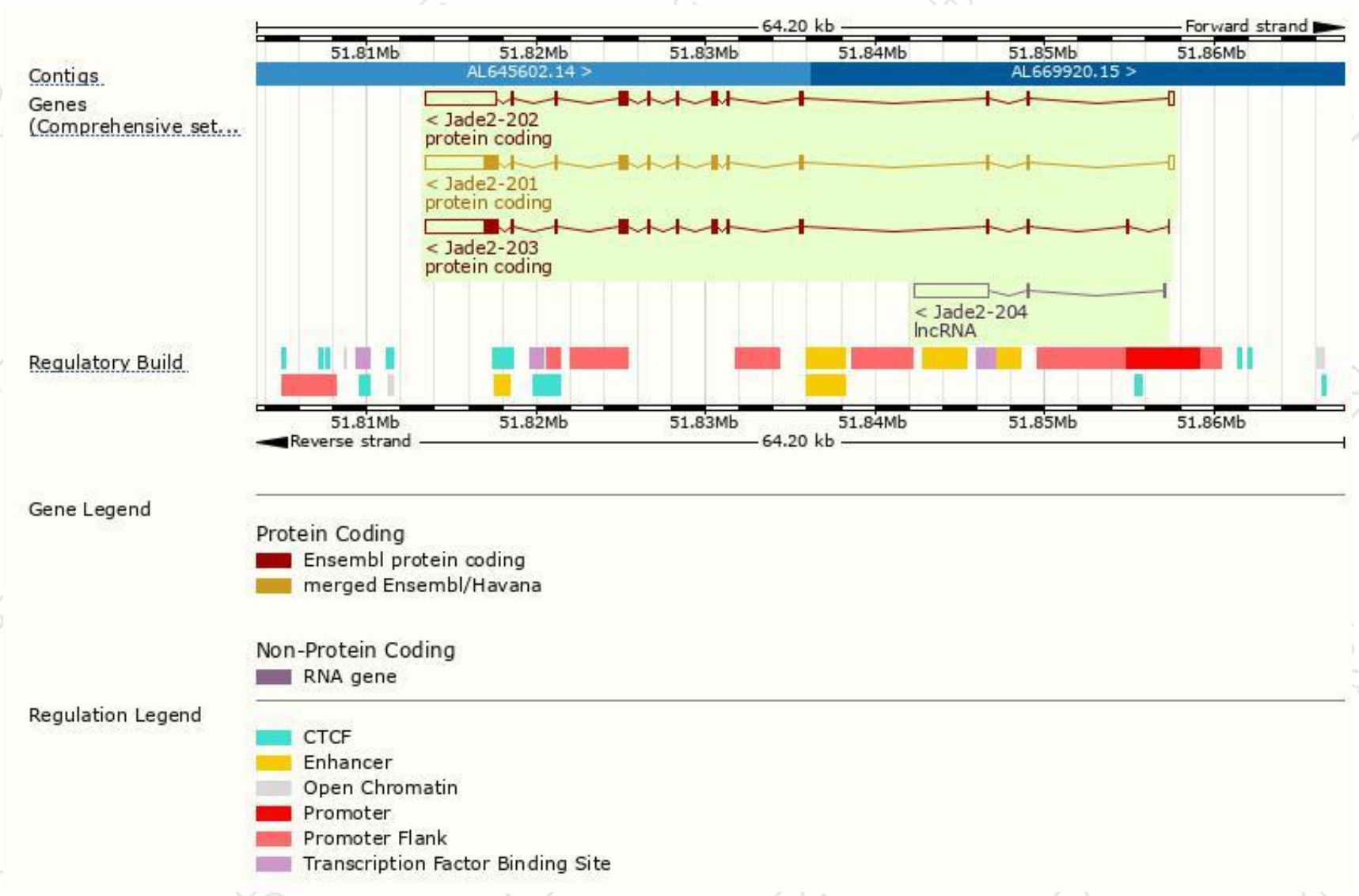
If you have any questions, you are welcome to inquire.
Tel: 400-9660890

集萃药康生物科技
GemPharmatech Co.,Ltd