Zxdb Cas9-KO Strategy

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Project Overview

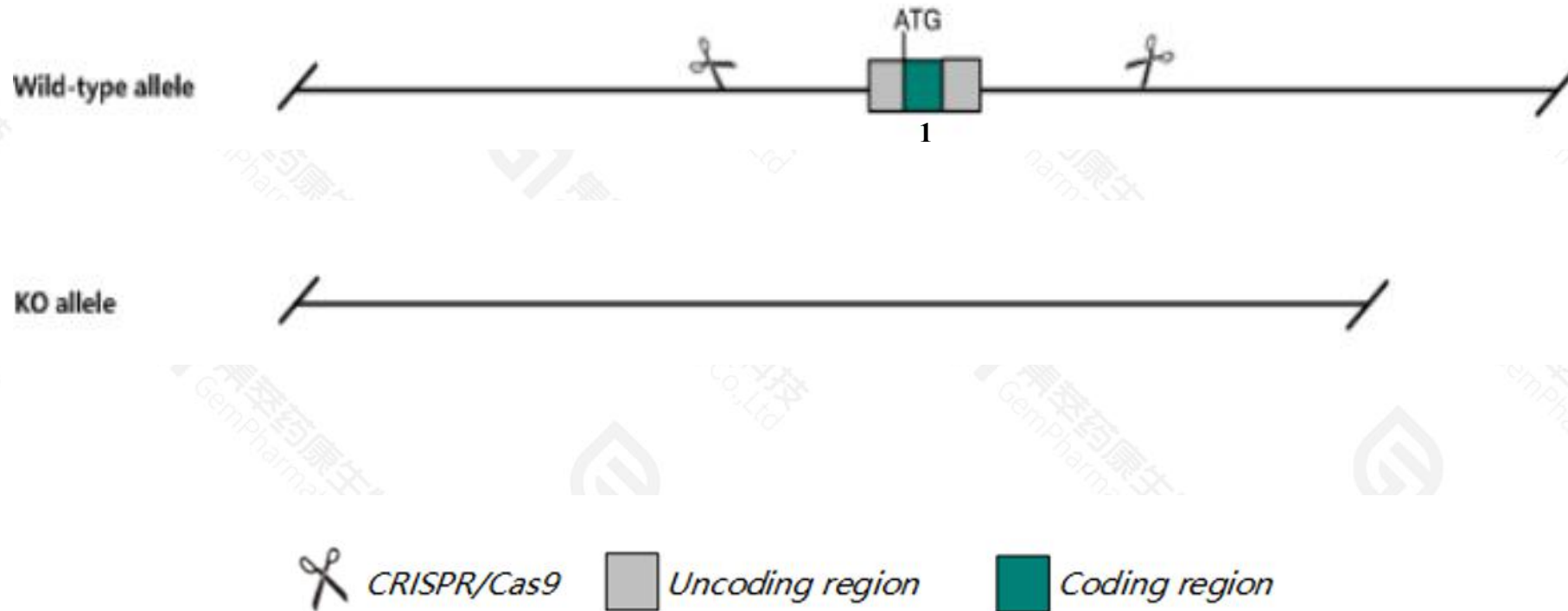|	
Project Name	*Zxdb*
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

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

Technical routes

➢ The *Zxdb* gene has 1 transcript. According to the structure of *Zxdb* gene, exon1 of *Zxdb-201*(ENSMUST00000101388.4) transcript is recommended as the knockout region.The region contains all of the coding sequence.Knock out the region will result in disruption of protein function.

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

Notice

➢ The *Zxdb* gene is located on the ChrX. 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.

➢ The KO region nears the *Gm39526* gene.Knockout the region may affect the function of *Gm39526* gene.

Zxdb zinc finger, X-linked, duplicated B [Mus musculus (house mouse)]

Gene ID: 668166, updated on 17-Nov-2020

▲ Summary

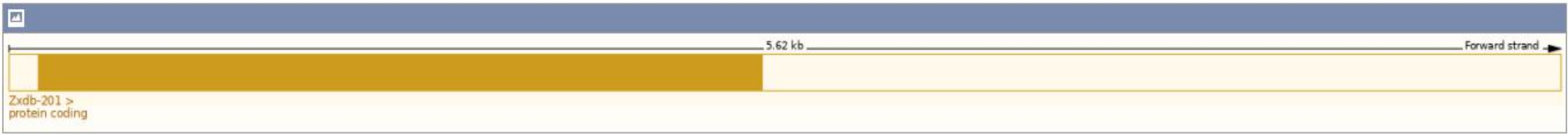|	
Official Symbol	Zxdb provided by MGI
Official Full Name	zinc finger, X-linked, duplicated B provided by MGI
Primary source	MGI:MGI:3694898
See related	Ensembl:ENSMUSG00000073062
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Zxda
Orthologs	human all

Transcript information（Ensembl）

The gene has 1 transcript,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zxdb-201	ENSMUST00000101388.4	5619	873aa	Protein coding	CCDS41065		TSL:NA , GENCODE basic , APPRIS P1 ,

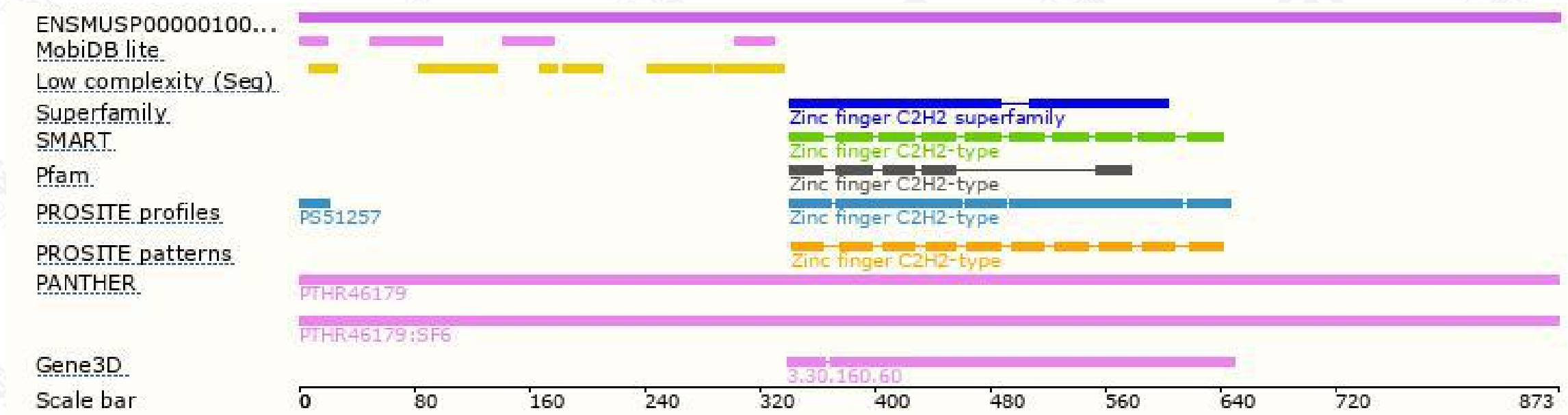The strategy is based on the design of *Zxdb-201* transcript,the transcription is shown below:

Genomic location distribution

Protein domain

ENSMUSP00000100...	
MobiDB lite	
Low complexity (Seg)	
Superfamily	Zinc finger C2H2 superfamily
SMART	Zinc finger C2H2-type
Pfam	Zinc finger C2H2-type
PROSITE profiles	PS51257 · Zinc finger C2H2-type
PROSITE patterns	Zinc finger C2H2-type
PANTHER	PTHR46179
	PTHR46179:SF6
Gene3D	3.30.160.60
Scale bar	0 80 160 240 320 400 480 560 640 720 873

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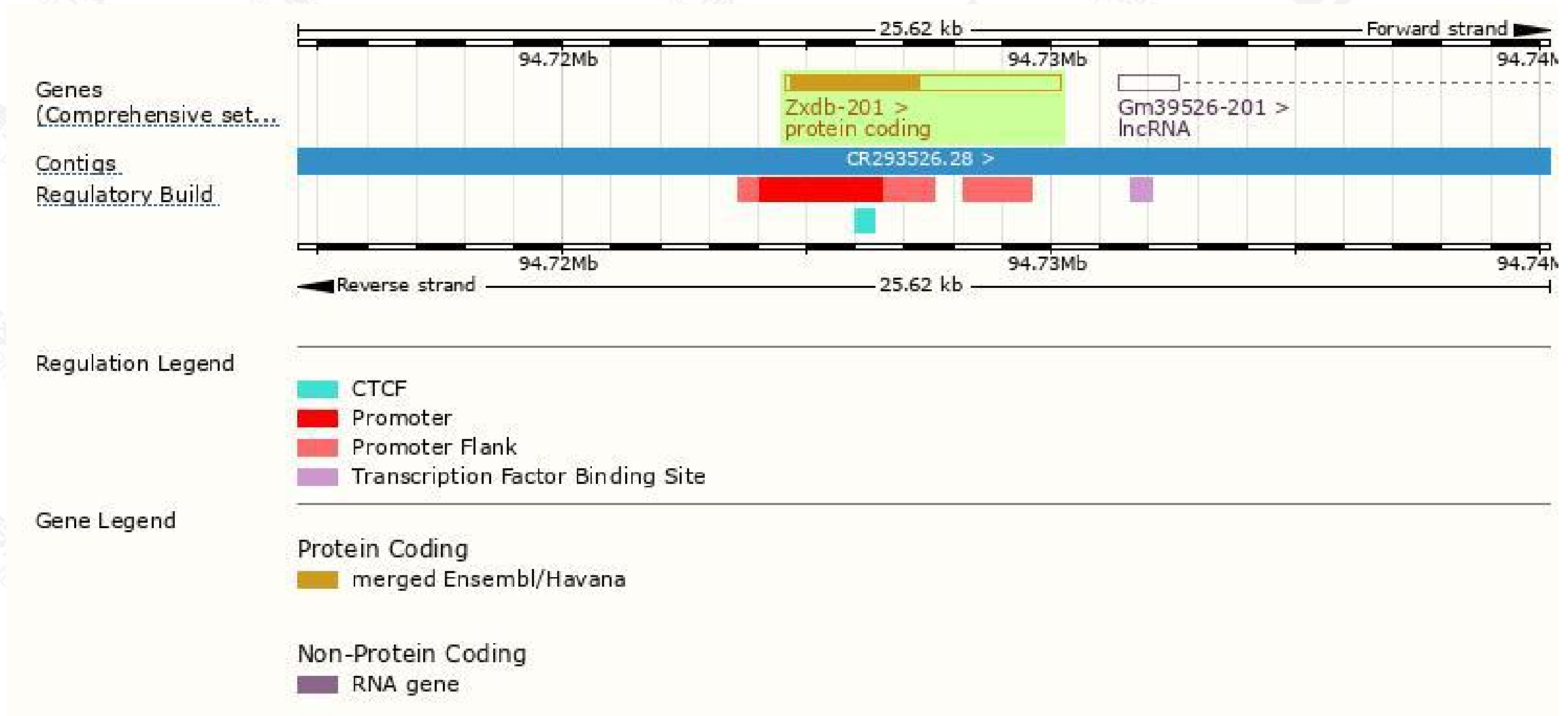
If you have any questions, you are welcome to inquire.
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