Wbp4 Cas9-KO Strategy

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Project Overview

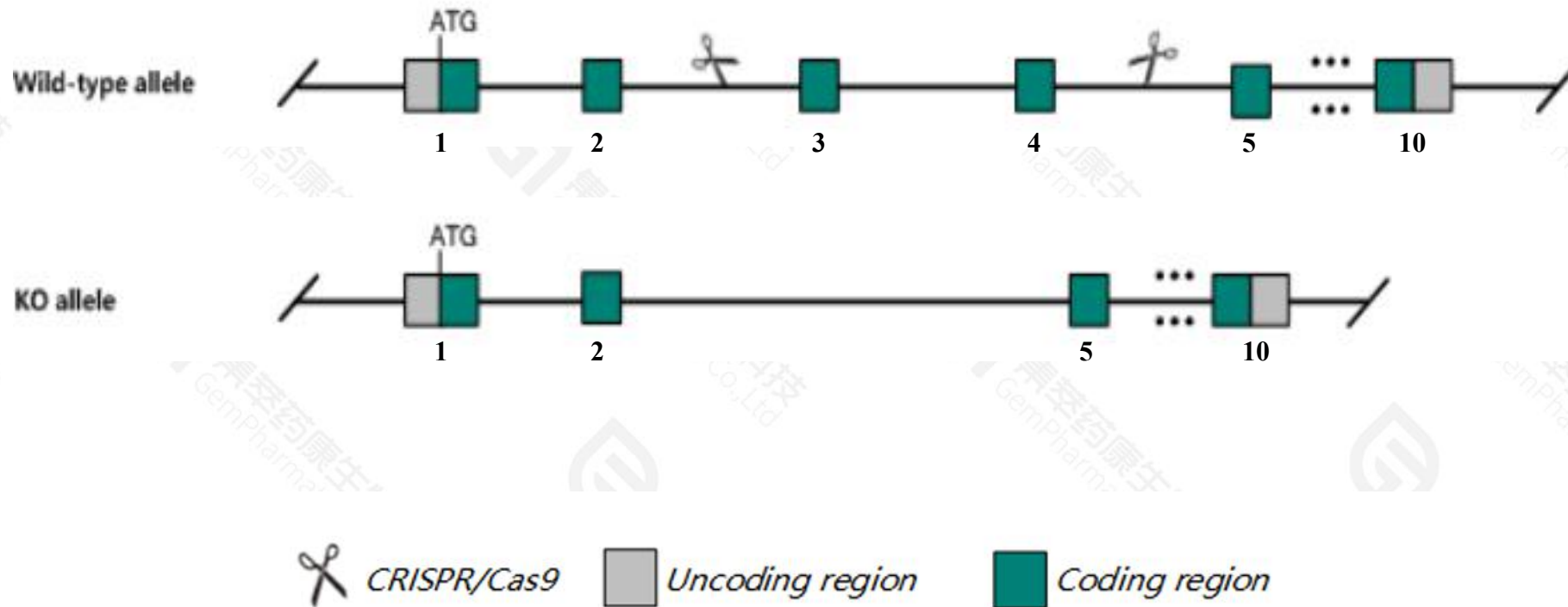|	
Project Name	*Wbp4*
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wbp4* gene. The schematic diagram is as follows:

Technical routes

➤ The *Wbp4* gene has 4 transcripts. According to the structure of *Wbp4* gene, exon3-exon4 of *Wbp4-201*(ENSMUST00000022601.6) transcript is recommended as the knockout region. The region contains 193bp coding sequence. Knock out the region will result in disruption of protein function.

➤ In this project we use CRISPR/Cas9 technology to modify *Wbp4* 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.

➢ Transcript *Wbp4*-203 and *Wbp4*-204 may not be affected.

➢ The KO region is close to *Elf1* gene.Knockout the region may affect the function of *Elf1* gene.

➢ The *Wbp4* gene is located on the Chr14. 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）

Wbp4   WW domain binding protein 4 [_Mus musculus_ (house mouse)]

⬇ **Download Datasets**

Gene ID: 22380, updated on 25-Sep-2020

🔺 **Summary**   ⤊ ?

|	
Official Symbol	Wbp4 provided by MGI
Official Full Name	WW domain binding protein 4 provided by MGI
Primary source	MGI:MGI:109568
See related	Ensembl:ENSMUSG00000022023
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	FBP2; FBP21; AW545037; BB101031
Expression	Ubiquitous expression in CNS E11.5 (RPKM 9.8), CNS E18 (RPKM 7.9) and 28 other tissues See more
Orthologs	human all

NEW   Try the new **Gene table**
Try the new **Transcript table**

Transcript information（Ensembl）

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

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wbp4-201	ENSMUST00000022601.6	3704	376aa	Protein coding	CCDS27300	Q61048	TSL:1 GENCODE basic APPRIS is a system to annotate alternatively spliced transcripts based on a range of computational methods to identify the most functionally important transcript(s) of a gene. APPRIS P1
Wbp4-202	ENSMUST00000227584.1	1512	315aa	Nonsense mediated decay	-	A0A2I3BQA9	
Wbp4-204	ENSMUST00000228161.1	3671	No protein	Processed transcript	-	-	
Wbp4-203	ENSMUST00000228105.1	2085	No protein	Retained intron	-	-	

The strategy is based on the design of *Wbp4-201* transcript,the transcription is shown below:
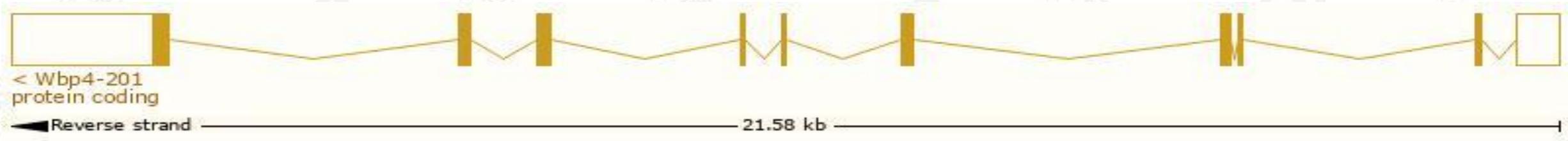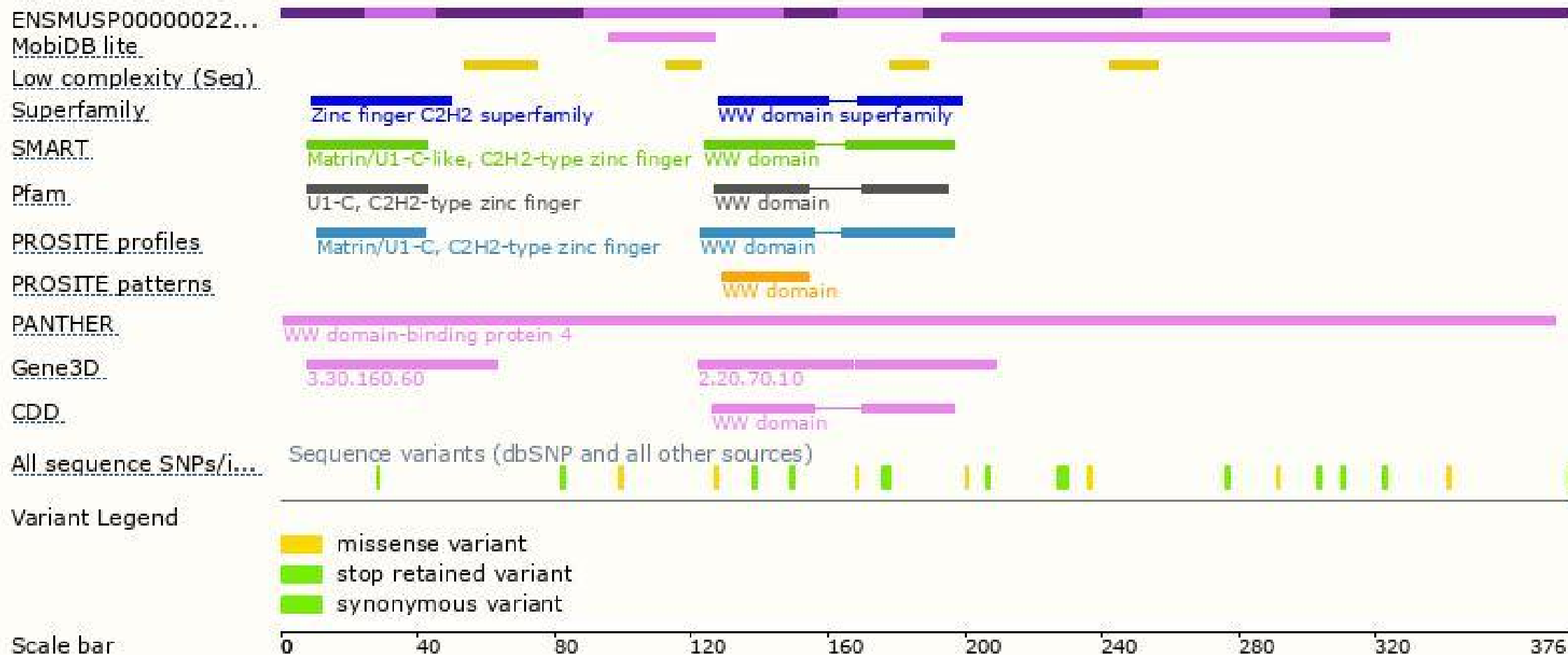
Genomic location distribution
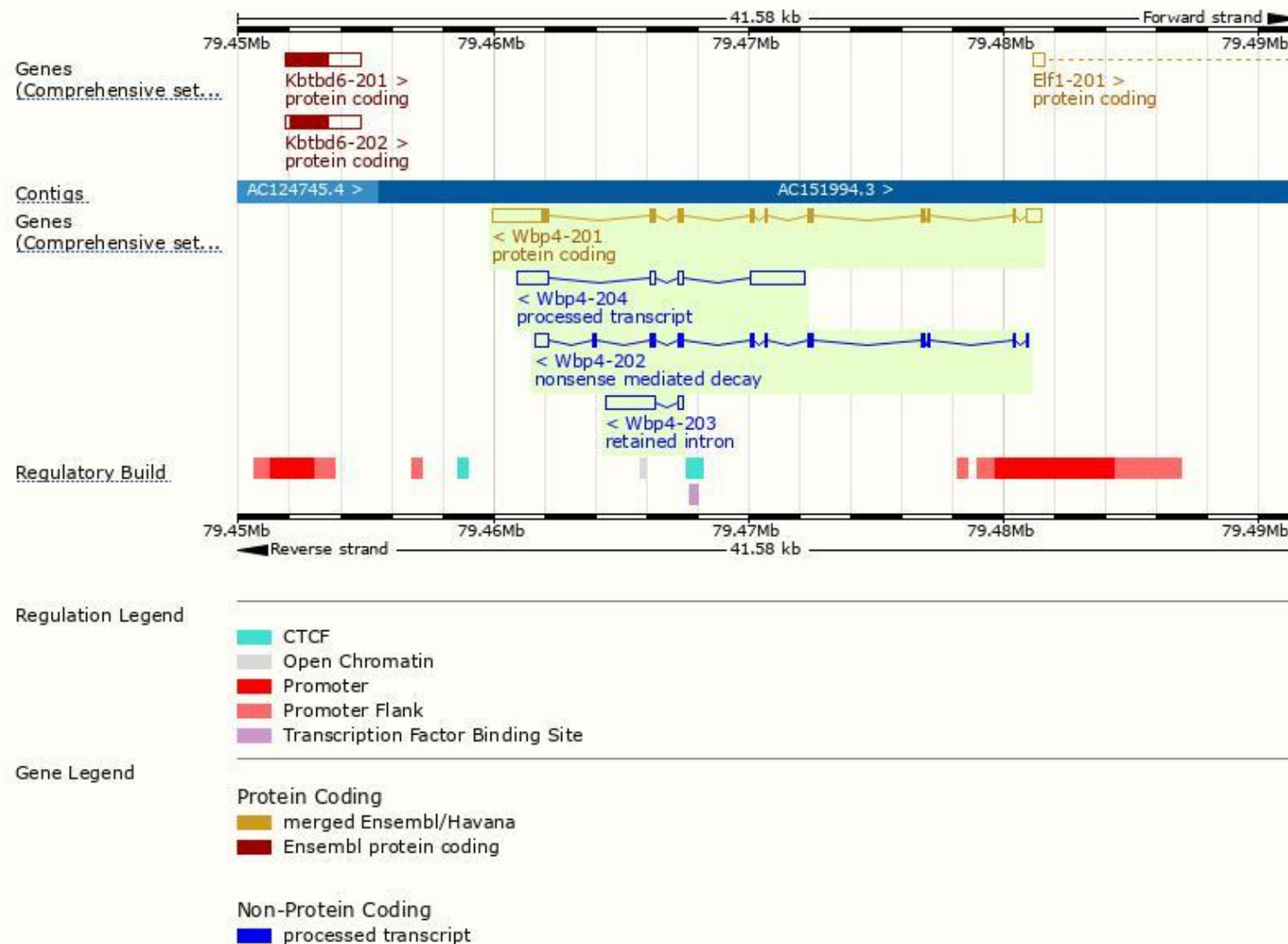
Protein domain

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