集萃药康
GemPharmatech

Zbtb45 Cas9-KO Strategy

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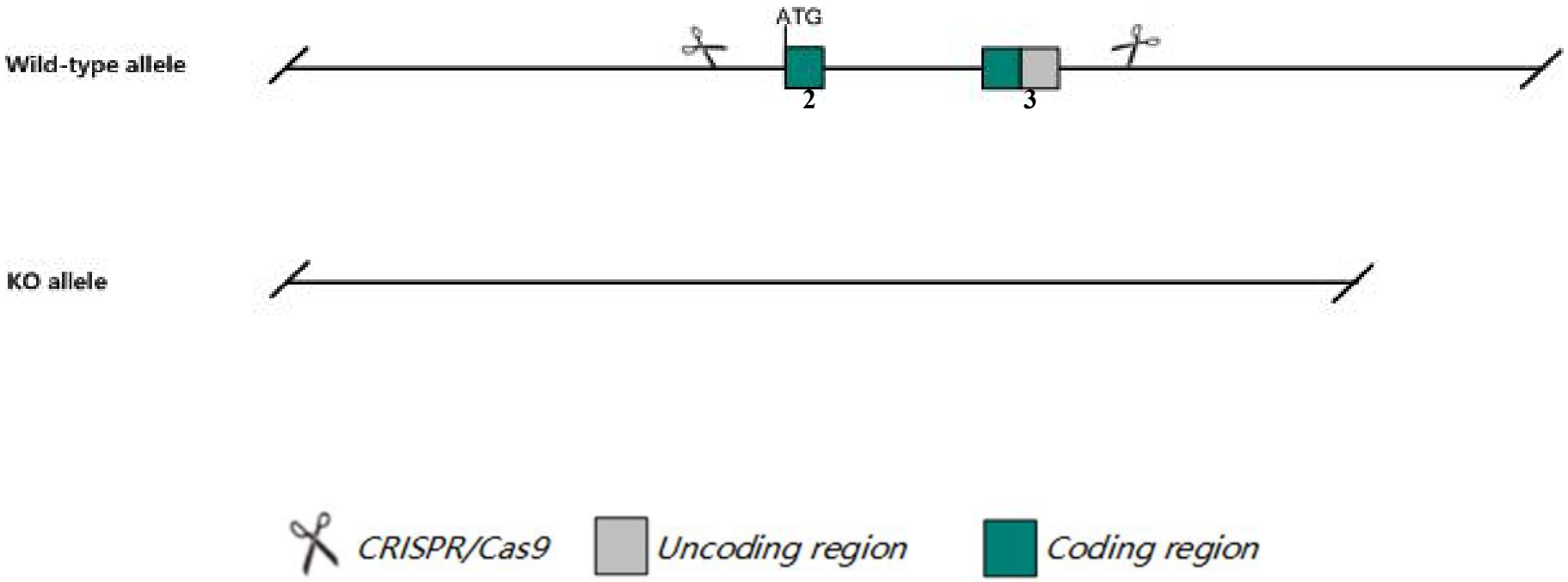
Project Overview

Project Name	***Zbtb45***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zbtb45* gene. The schematic diagram is as follows:



Technical routes

The *Zbtb45* gene has 5 transcripts. According to the structure of *Zbtb45* gene, exon2-exon3 of *Zbtb45-205* (ENSMUST00000210282.1) 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 *Zbtb45* gene. The brief process is as follows: CRISPR/Cas9 systen

Notice

The KO region contains intron of the *Trim28-201* gene. The effect of *Trim28-201* gene is unknow after knockout the region .

The *Zbtb45* gene is located on the Chr7. 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

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Zbtb45 zinc finger and BTB domain containing 45 [*Mus musculus* (house mouse)]

Gene ID: 232879, updated on 24-Oct-2019

Summary

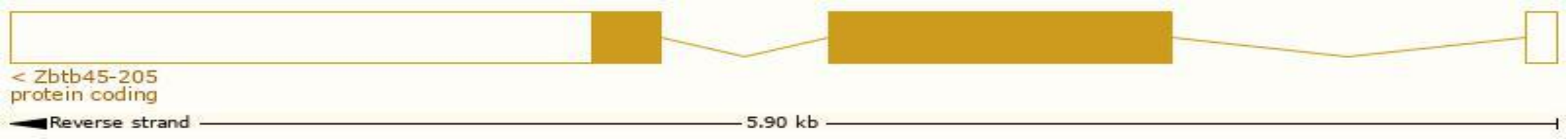
Official Symbol	Zbtb45 provided by MGI
Official Full Name	zinc finger and BTB domain containing 45 provided by MGI
Primary source	MGI:MGI:2685003
See related	Ensembl:ENSMUSG00000049600
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Gm157; Zfp499; BB161562
Expression	Ubiquitous expression in thymus adult (RPKM 21.0), adrenal adult (RPKM 18.1) and 28 other tissues See more
Orthologs	human all

Transcript information Ensembl

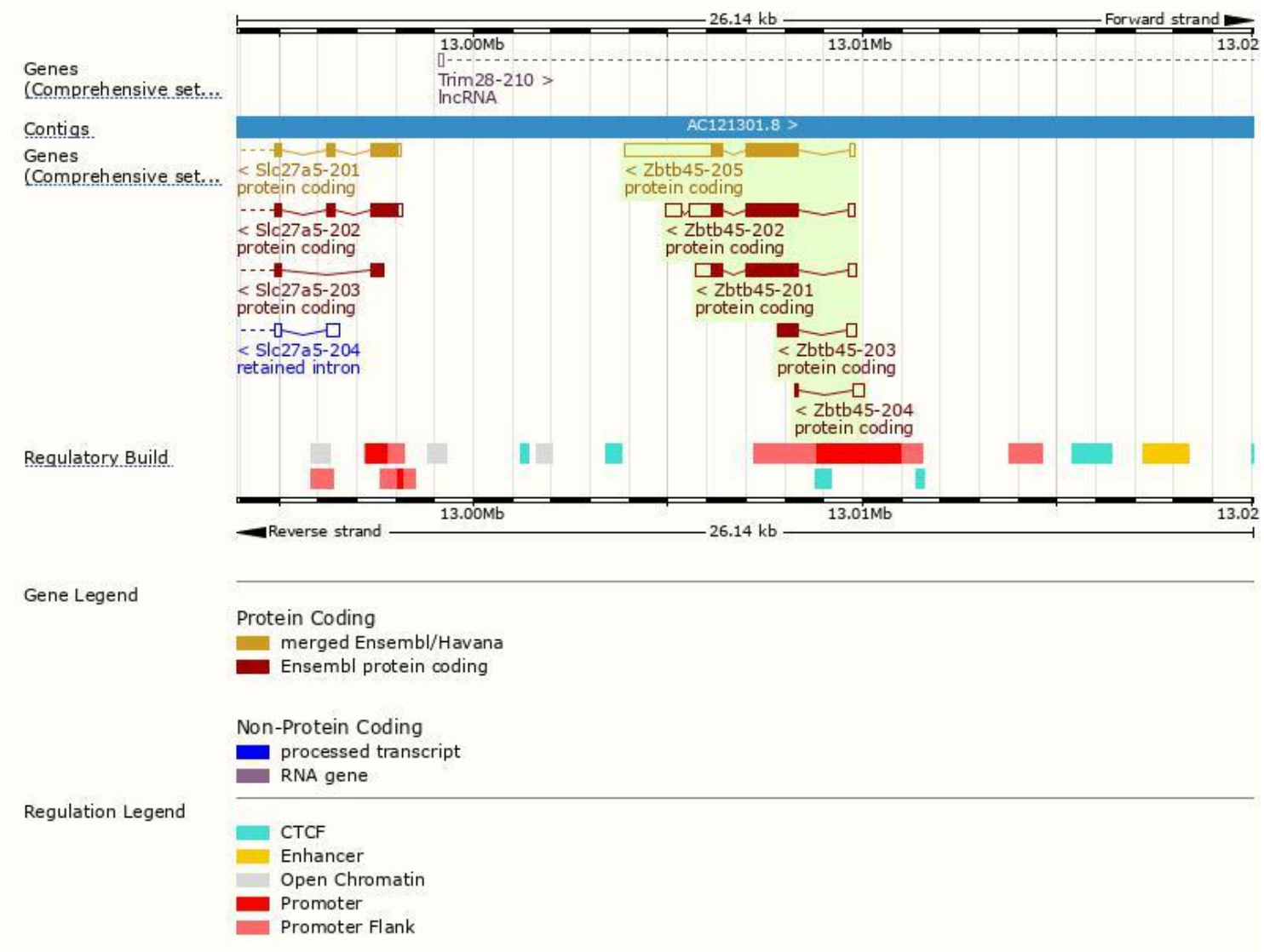
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zbtb45-205	ENSMUST00000210282.1	3908	520aa	Protein coding	CCDS20822	Q52KG4	TSL:1 GENCODE basic APPRIS P1
Zbtb45-202	ENSMUST00000172240.1	2722	520aa	Protein coding	CCDS20822	Q52KG4	TSL:1 GENCODE basic APPRIS P1
Zbtb45-201	ENSMUST00000051390.8	2171	520aa	Protein coding	CCDS20822	Q52KG4	TSL:1 GENCODE basic APPRIS P1
Zbtb45-203	ENSMUST00000209997.1	721	168aa	Protein coding	-	A0A1B0GRT4	CDS 3' incomplete TSL:3
Zbtb45-204	ENSMUST00000210108.1	350	27aa	Protein coding	-	A0A1B0GS85	CDS 3' incomplete TSL:2

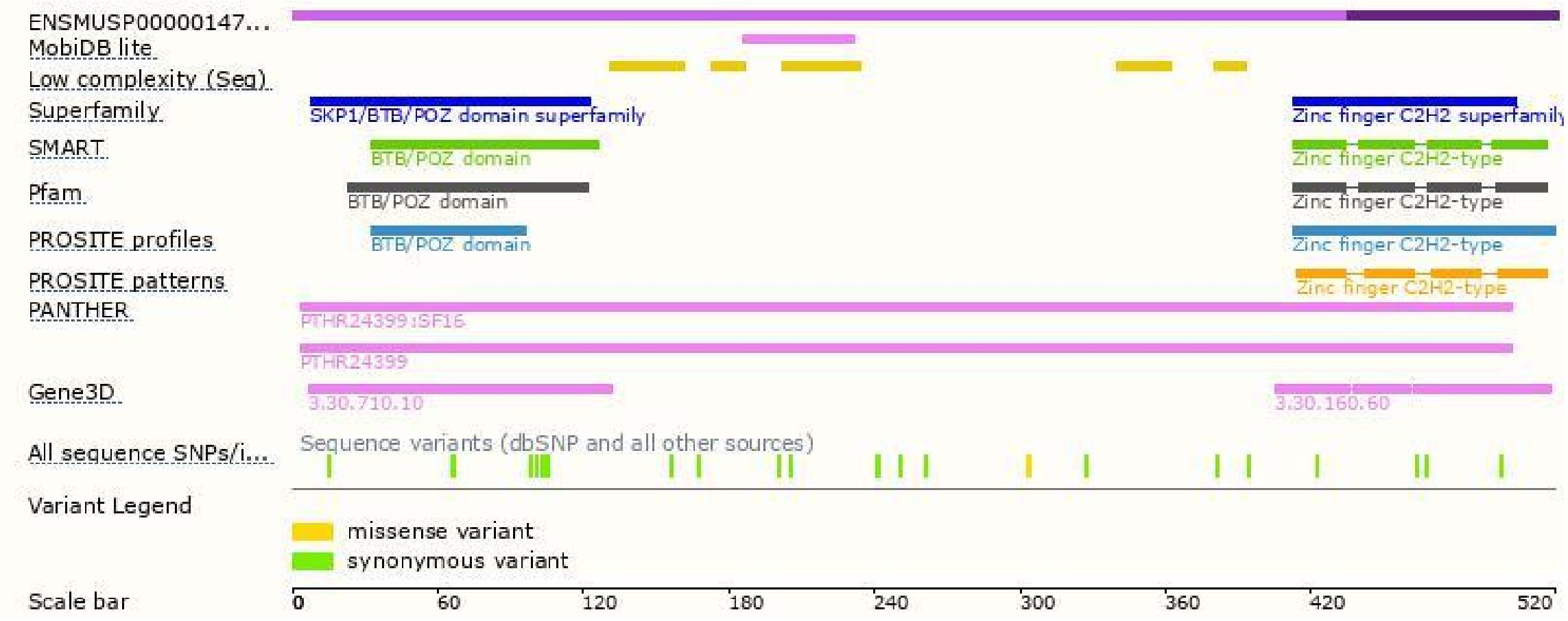
The strategy is based on the design of *Zbtb45-205* transcript,The transcription is shown below



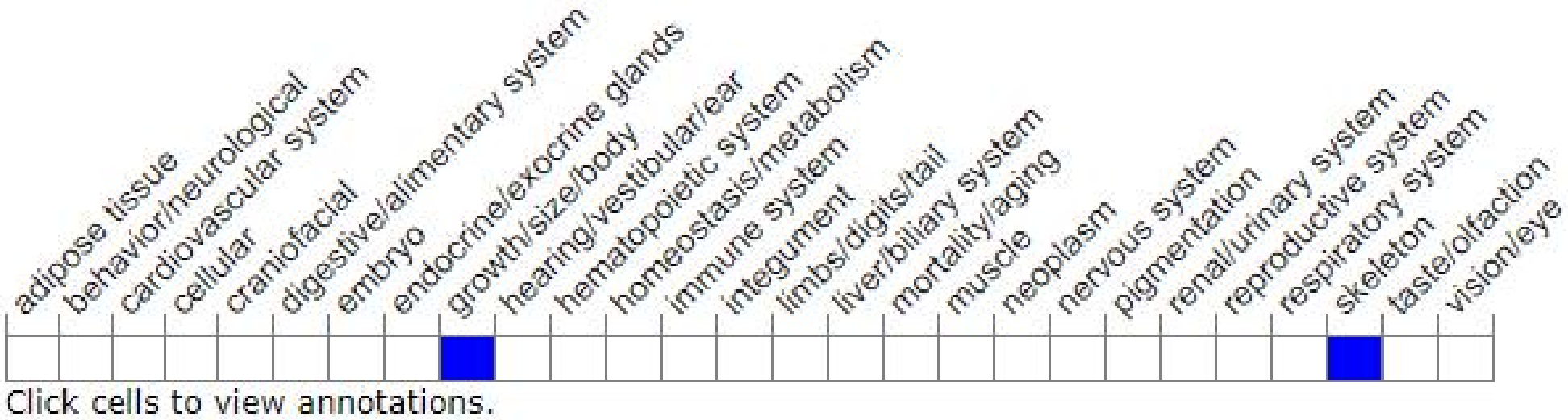
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue.Data quoted from MGI database(http://www.informatics.jax.org/).

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

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