

# ***Zfp777* Cas9-KO Strategy**

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# Project Overview

**Project Name**

***Zfp777***

**Project type**

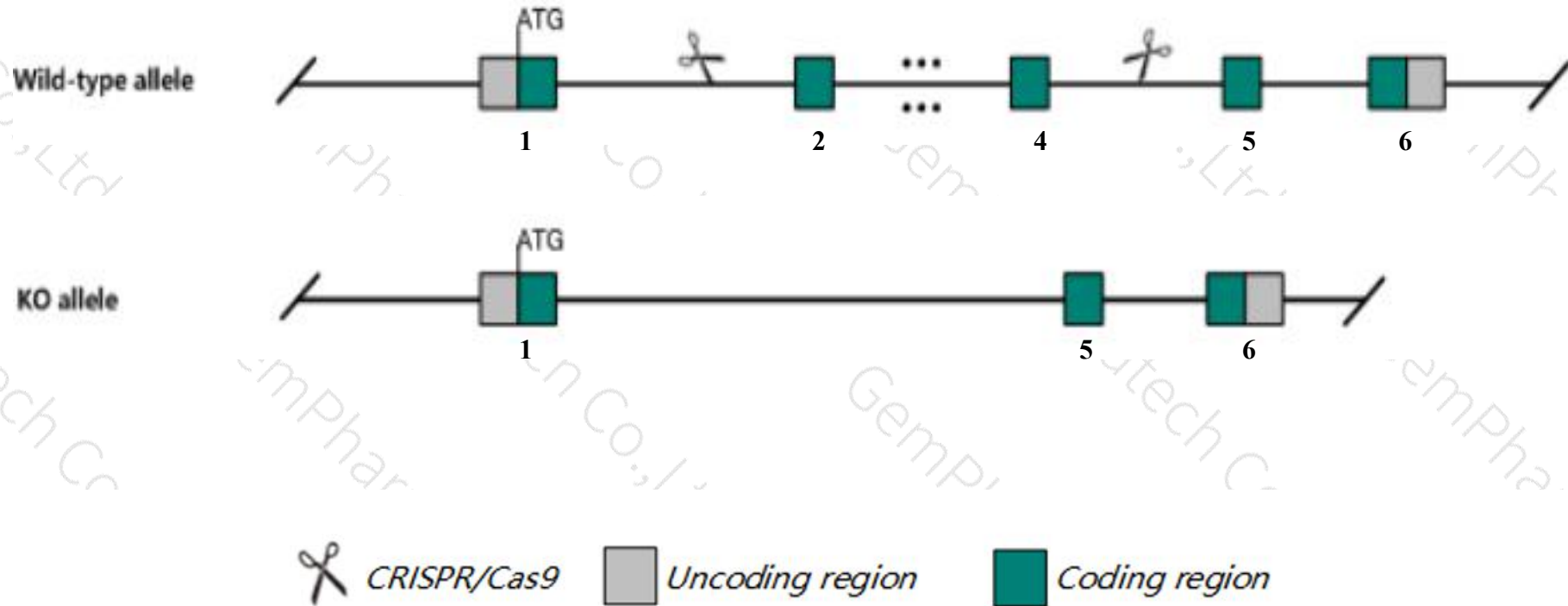
**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zfp777* gene. The schematic diagram is as follows:



- The *Zfp777* gene has 5 transcripts. According to the structure of *Zfp777* gene, exon2-exon4 of *Zfp777*-202(ENSMUST00000114583.7) transcript is recommended as the knockout region. The region contains 1099bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zfp777* 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.

- The KO region is close to *Gm24563* gene. Knockout the region may affect the function of *Gm24563* gene.
- The *Zfp777* 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)

## Zfp777 zinc finger protein 777 [ *Mus musculus* (house mouse) ]

Gene ID: 72306, updated on 10-Oct-2020

### Summary

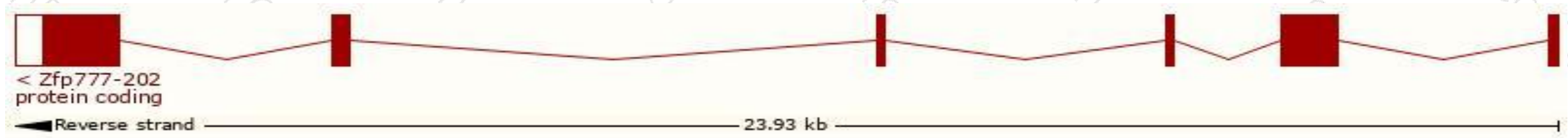
Official Symbol	Zfp777 provided by <a href="#">MGI</a>
Official Full Name	zinc finger protein 777 provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:1919556</a>
See related	<a href="#">Ensembl:ENSMUSG00000071477</a>
Gene type	protein coding
RefSeq status	VALIDATED
Organism	<a href="#">Mus musculus</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2500002G23Rik
Expression	Ubiquitous expression in thymus adult (RPKM 6.7), ovary adult (RPKM 6.3) and 28 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

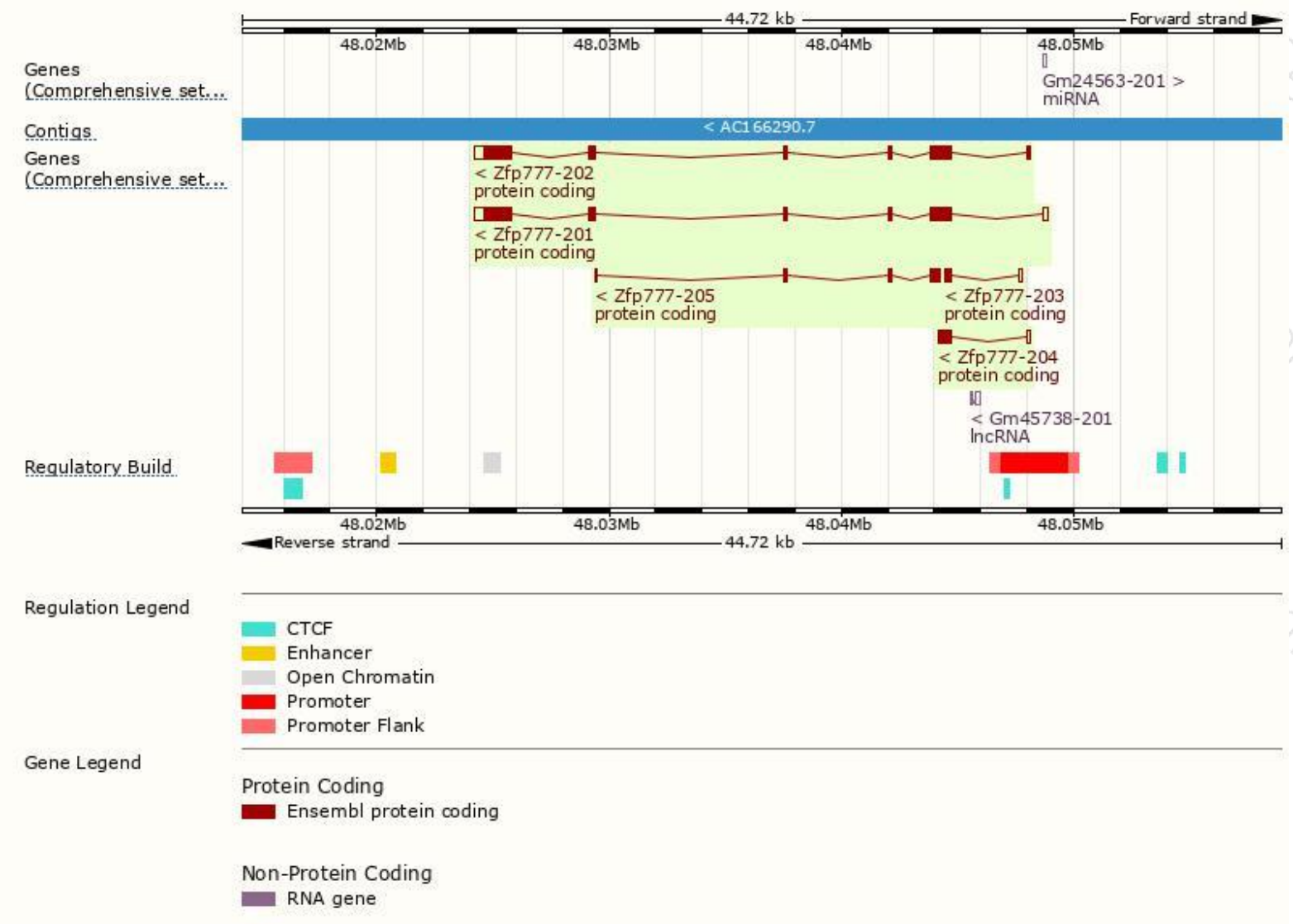
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zfp777-201	<a href="#">ENSMUST00000095944.9</a>	3184	<a href="#">841aa</a>	Protein coding	<a href="#">CCDS85035</a>	<a href="#">G5E8L5</a>	TSL:1 GENCODE basic APPRIS ALT2
Zfp777-202	<a href="#">ENSMUST00000114583.7</a>	3111	<a href="#">885aa</a>	Protein coding	<a href="#">CCDS39477</a>	<a href="#">B9EKF4</a>	TSL:5 GENCODE basic APPRIS P3
Zfp777-205	<a href="#">ENSMUST00000148362.1</a>	736	<a href="#">227aa</a>	Protein coding	-	<a href="#">F6QAV8</a>	CDS 5' incomplete TSL:3
Zfp777-204	<a href="#">ENSMUST00000147281.1</a>	668	<a href="#">174aa</a>	Protein coding	-	<a href="#">D3Z5F8</a>	CDS 3' incomplete TSL:2
Zfp777-203	<a href="#">ENSMUST00000125385.1</a>	420	<a href="#">80aa</a>	Protein coding	-	<a href="#">D3YYD3</a>	CDS 3' incomplete TSL:2

The strategy is based on the design of *Zfp777-202* transcript,the transcription is shown below:

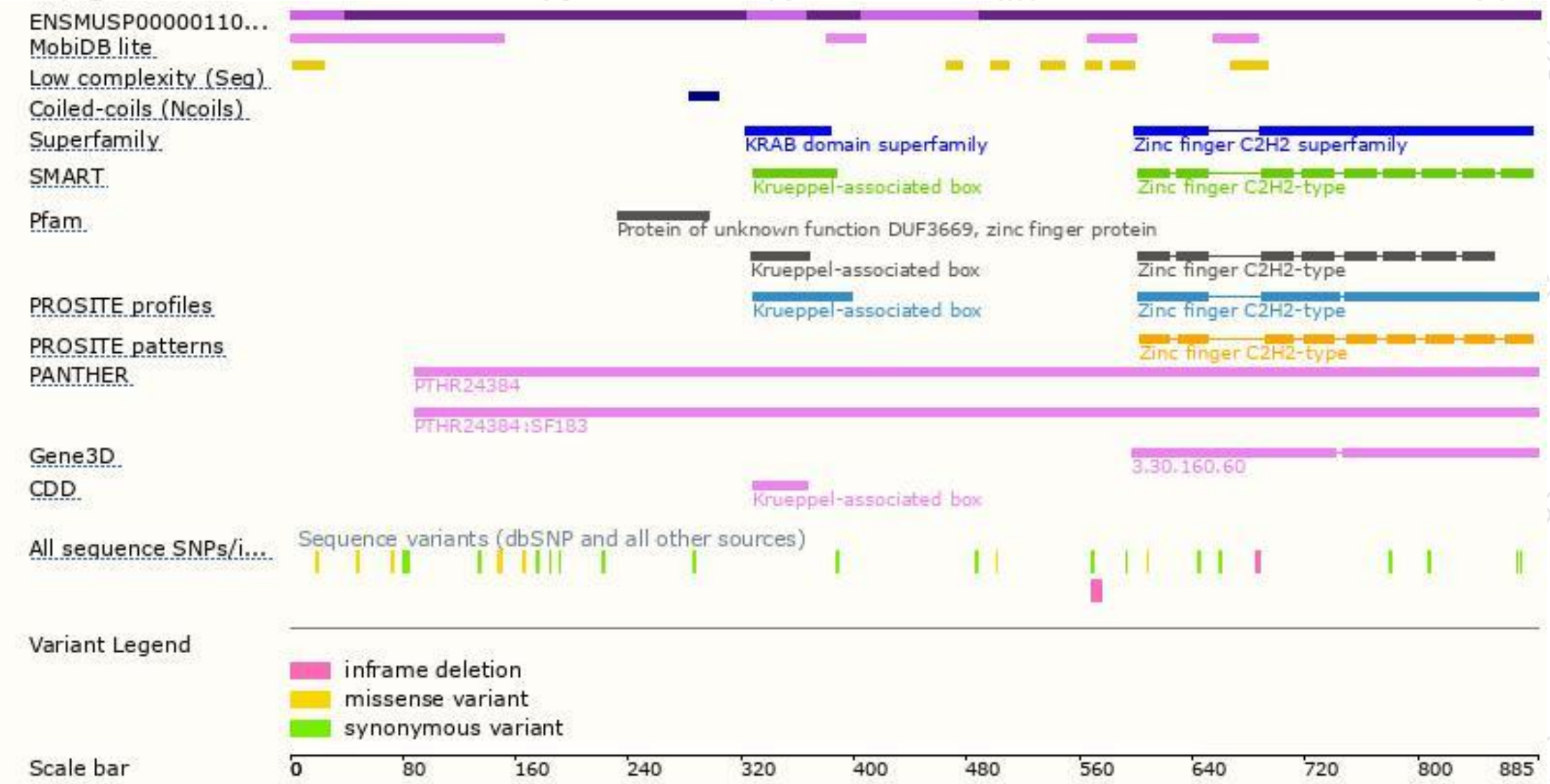


# Genomic location distribution





# Protein domain



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

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