

# ***Il17c*** Cas9-KO Strategy

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# Project Overview

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**Project Name**

***Il17c***

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**Project type**

**Cas9-KO**

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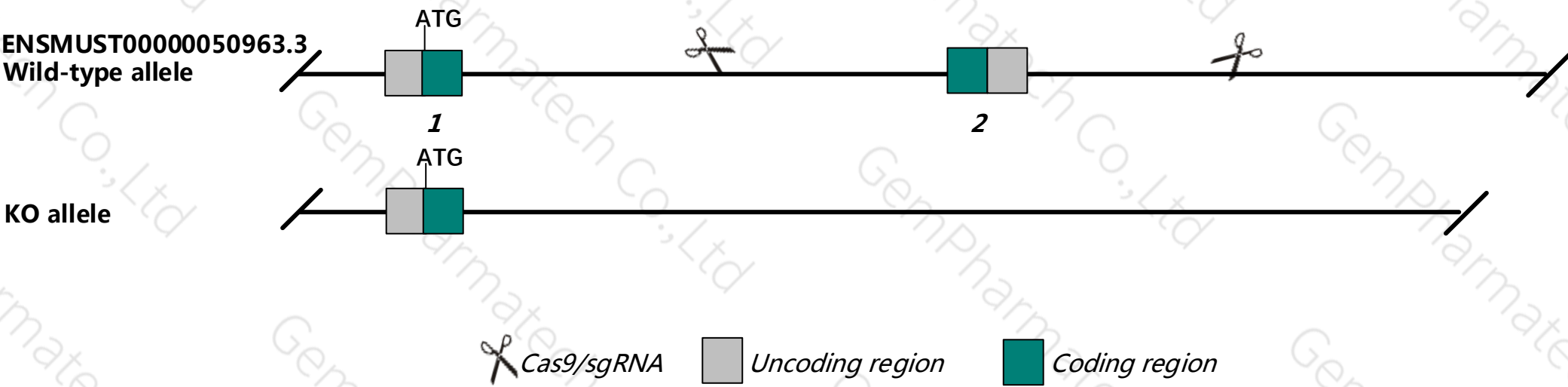
**Strain background**

**C57BL/6JGpt**

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# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Il17c* gene. The schematic diagram is as follows:



- The *Il17c* gene has 1 transcripts. According to the structure of *Il17c* gene, exon2 of *Il17c-201* (ENSMUST00000050963.3) transcript is recommended as the knockout region. The region contains most coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Il17c* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA 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.

- According to the existing MGI data, Mice homozygous for a reporter allele exhibit decreased susceptibility to experimental autoimmune encephalomyelitis. Mice homozygous for a knock-out allele exhibit increased susceptibility to induced psoriasis
- The *Il17c* gene is located on the Chr8. 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)

## IL17c interleukin 17C [ *Mus musculus* (house mouse) ]

Gene ID: 234836, updated on 12-Aug-2019

### Summary

Official Symbol	IL17c provided by <a href="#">MGI</a>
Official Full Name	interleukin 17C provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:2446486</a>
See related	<a href="#">Ensembl:ENSMUSG00000046108</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	IL-17C
Expression	Broad expression in spleen adult (RPKM 1.3), thymus adult (RPKM 0.9) and 22 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

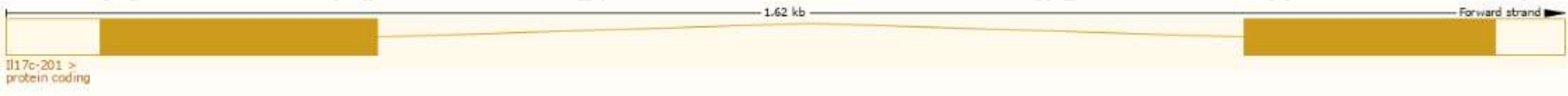


# Transcript information (Ensembl)

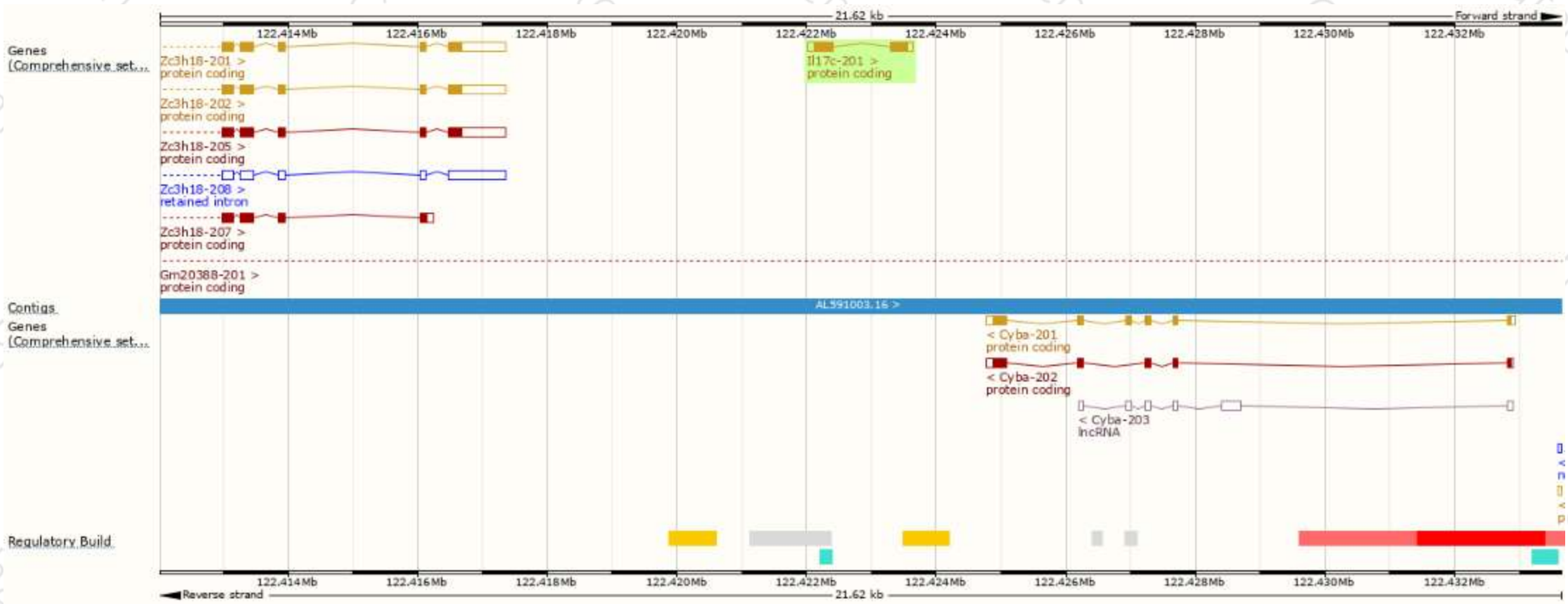
The gene has 1 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
<b>Il17c-201</b>	<a href="#">ENSMUST00000050963.3</a>	719	<a href="#">182aa</a>	Protein coding	-	<a href="#">A0A0R4J0P4</a>	TSL:1 Gencode basic APPRIS P1

The strategy is based on the design of *Il17c-201* transcript,The transcription is shown below

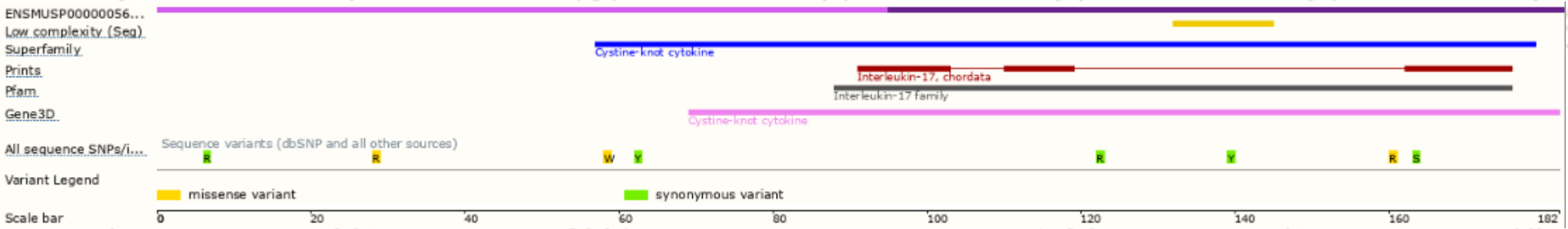


# Genomic location distribution

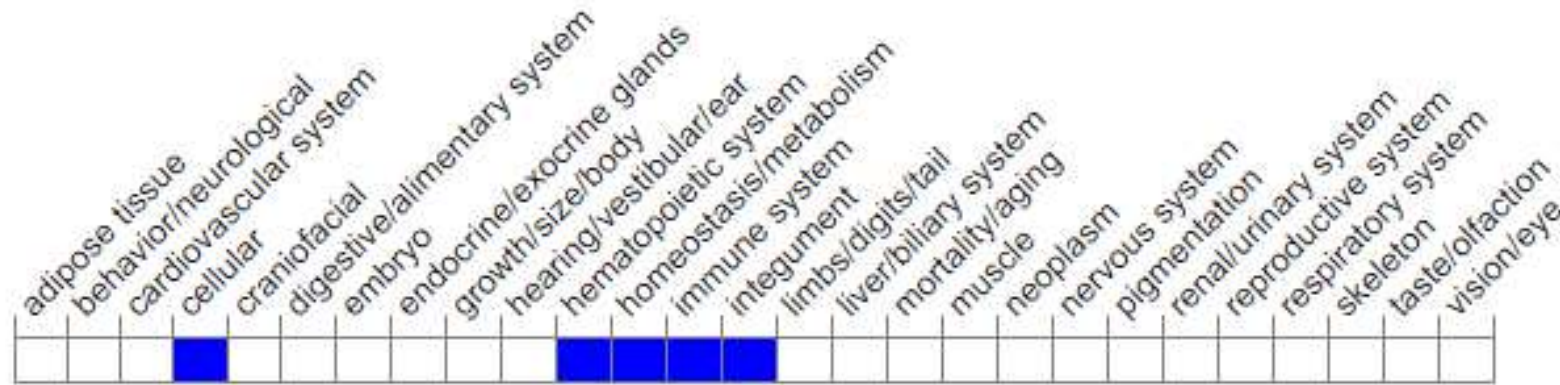




# Protein domain



# Mouse phenotype description(MGI)



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

According to the existing MGI data, Mice homozygous for a reporter allele exhibit decreased susceptibility to experimental autoimmune encephalomyelitis. Mice homozygous for a knock-out allele exhibit increased susceptibility to induced psoriasis

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

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