

Il3 Cas9-KO Strategy

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Project Overview

Project Name

Il3

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Il3* gene. The schematic diagram is as follows:



- The *Il3* gene has 1 transcript. According to the structure of *Il3* gene, exon3-exon5 of *Il3-201* (ENSMUST00000019058.5) transcript is recommended as the knockout region. The region contains 294bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Il3* gene. The brief process is as follows: CRISPR/Cas9 system we

- According to the existing MGI data, Mice homozygous for disruptions in this gene show abnormal mast cell development. Contact hypersensitivity is reduced and resistance to parasitic infections is increased.
- The *Il3* gene is located on the Chr11. 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)

IL3 interleukin 3 [Mus musculus (house mouse)]

Gene ID: 16187, updated on 12-Mar-2019

Summary



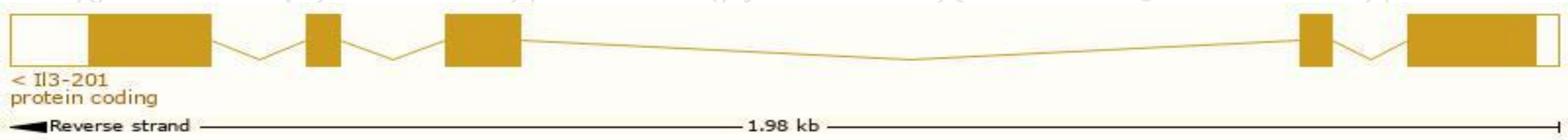
Official Symbol	IL3 provided by MGI
Official Full Name	interleukin 3 provided by MGI
Primary source	MGI:MGI:96552
See related	Ensembl:ENSMUSG00000018914
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	BPA, Csfmu, HCGF, IL-3, MCGF, PSF
Orthologs	human all

Transcript information (Ensembl)

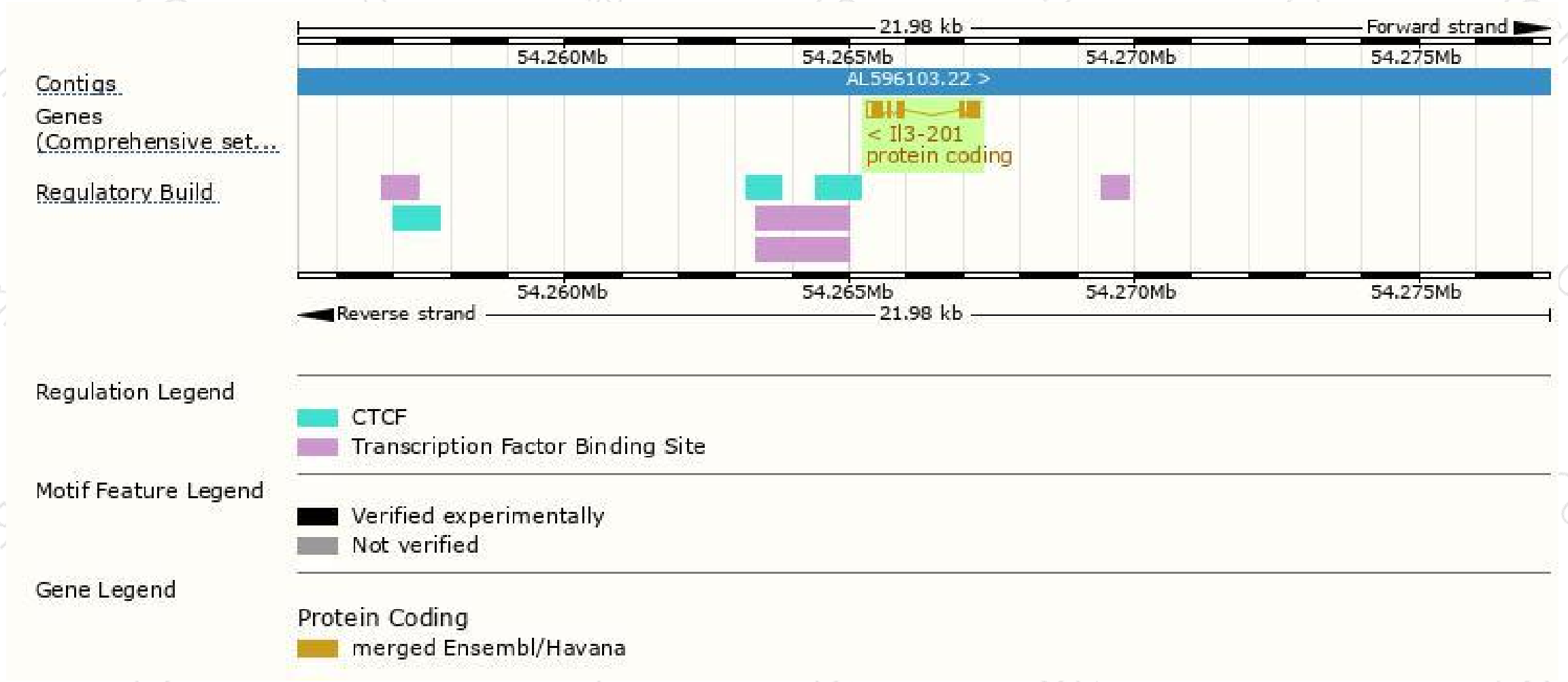
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
IL3-201	ENSMUST00000019058.5	629	166aa	Protein coding	CCDS24693	P01586 Q5SX77	TSL:1 GENCODE basic APPRIS P1

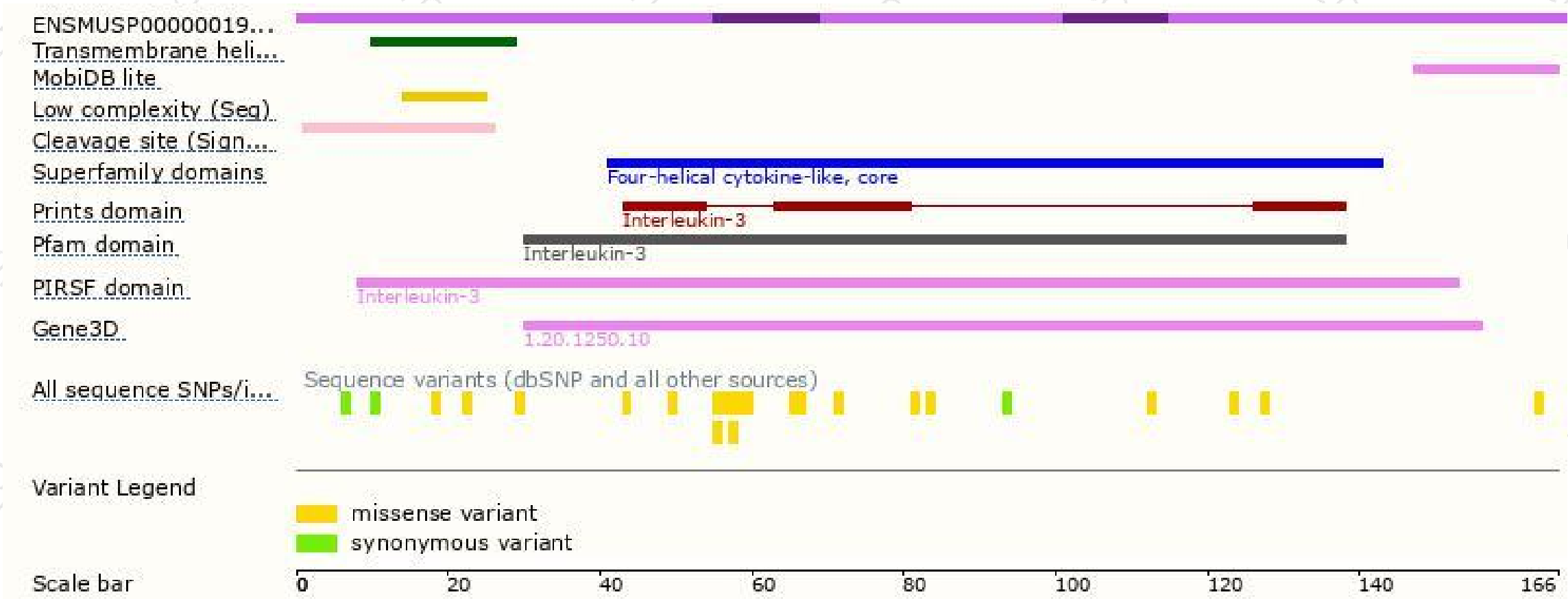
The strategy is based on the design of *IL3-201* transcript, The transcription is shown below



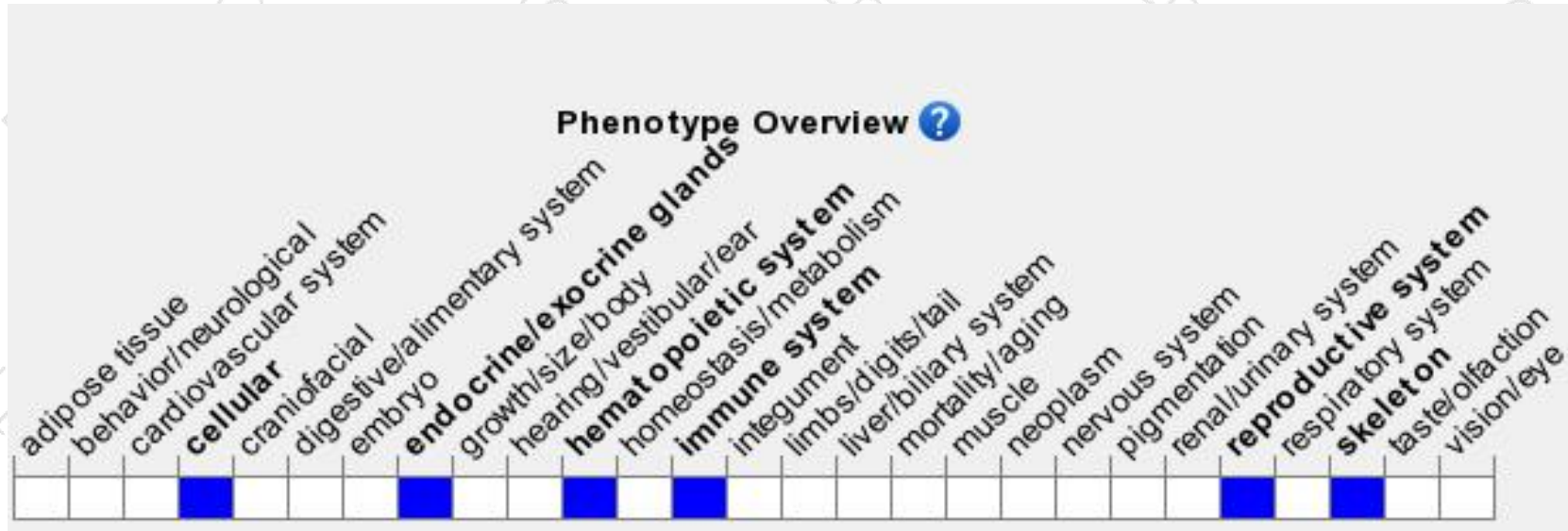
Genomic location distribution



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 disruptions in this gene show abnormal mast cell development.

Contact hypersensitivity is reduced and resistance to parasitic invasions is increased.

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

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