Cxcl17 Cas9-KO Strategy

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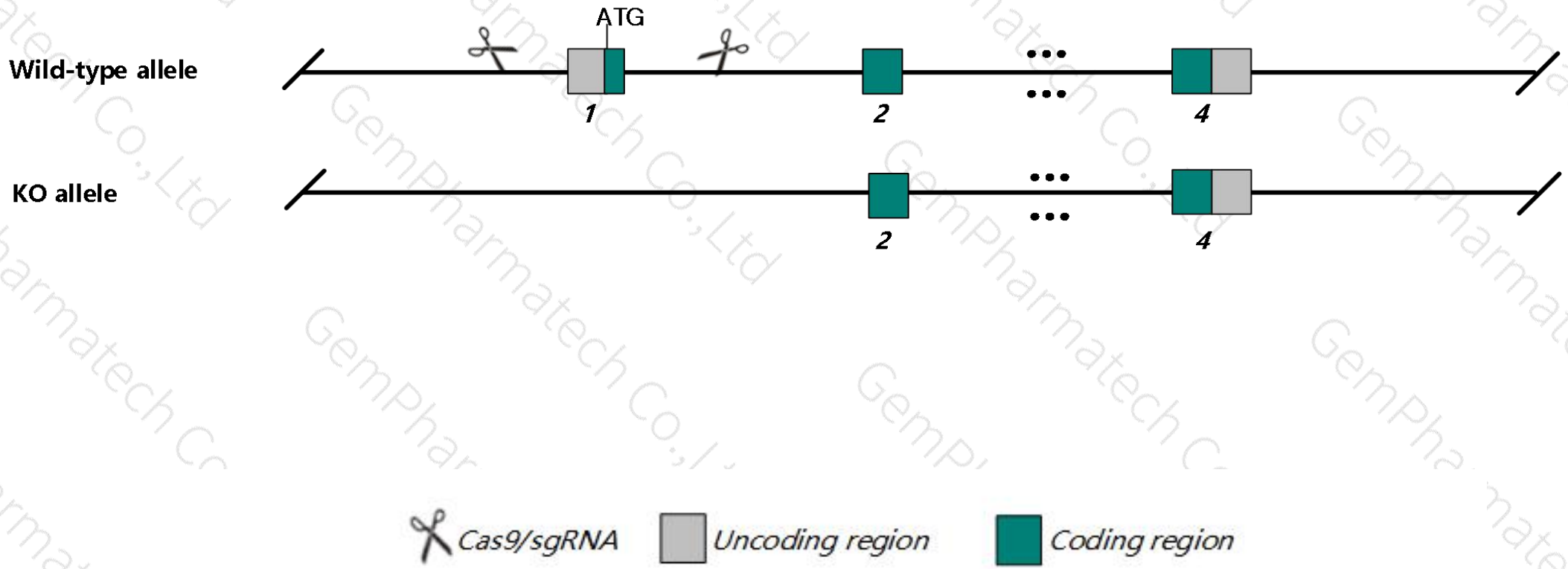
Design Date: 2020-3-25

Project Overview

Project Name	***Cxcl17***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cxcl17* gene. The schematic diagram is as follows:



Technical routes

➢ The *Cxcl17* gene has 2 transcripts. According to the structure of *Cxcl17* gene, exon1 of *Cxcl17-202* (ENSMUST00000200880.3) transcript is recommended as the knockout region.The region contains start codon ATG. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Cxcl17* gene. The brief process is as follows: CRISPR/Cas9 systen

Notice

➢ The flox region is in the intron of the 4732471J01Rik gene, which may affect the regulation of this gene.

➢ The *Cxcl17* 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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Cxcl17 chemokine (C-X-C motif) ligand 17 [*Mus musculus* (house mouse)]

Gene ID: 232983, updated on 13-Mar-2020

Summary

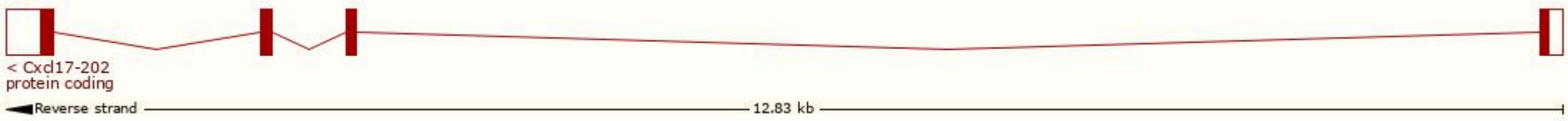
Official Symbol	Cxcl17 provided by MGI
Official Full Name	chemokine (C-X-C motif) ligand 17 provided by MGI
Primary source	MGI:MGI:2387642
See related	Ensembl:ENSMUSG00000060188
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Vcc1; VCC-1
Expression	Biased expression in stomach adult (RPKM 37.4), lung adult (RPKM 15.8) and 3 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

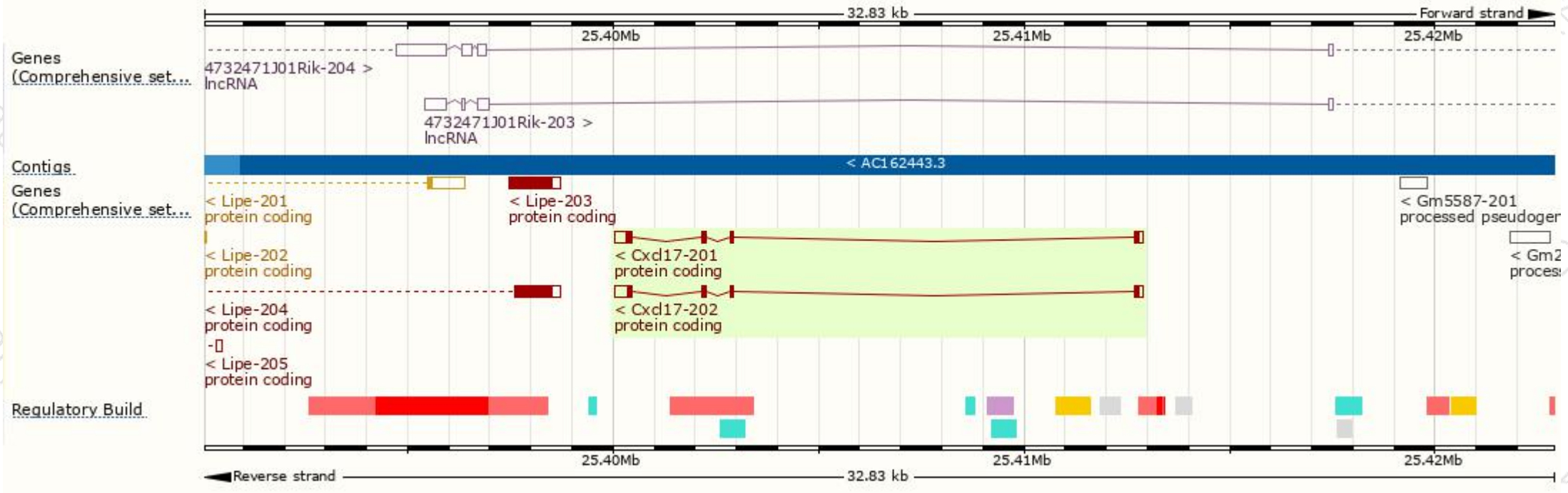
The gene has 2 transcript,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cxcl17-202	ENSMUST00000200880.3	760	119aa	Protein coding	CCDS80680	Q5UW37	TSL:1 GENCODE basic APPRIS P2
Cxcl17-201	ENSMUST00000074040.3	761	128aa	Protein coding	-	E9Q192	TSL:5 GENCODE basic APPRIS ALT2

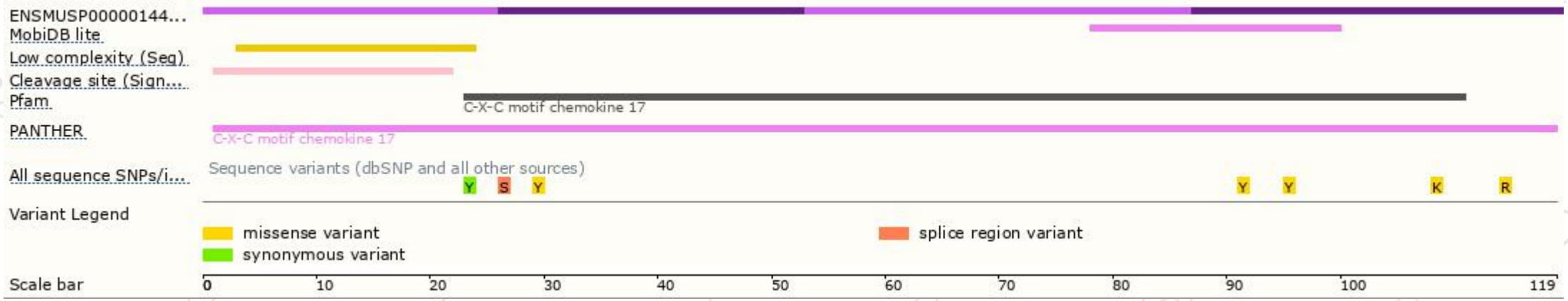
The strategy is based on the design of *Cxcl17-202* transcript,The transcription is shown below



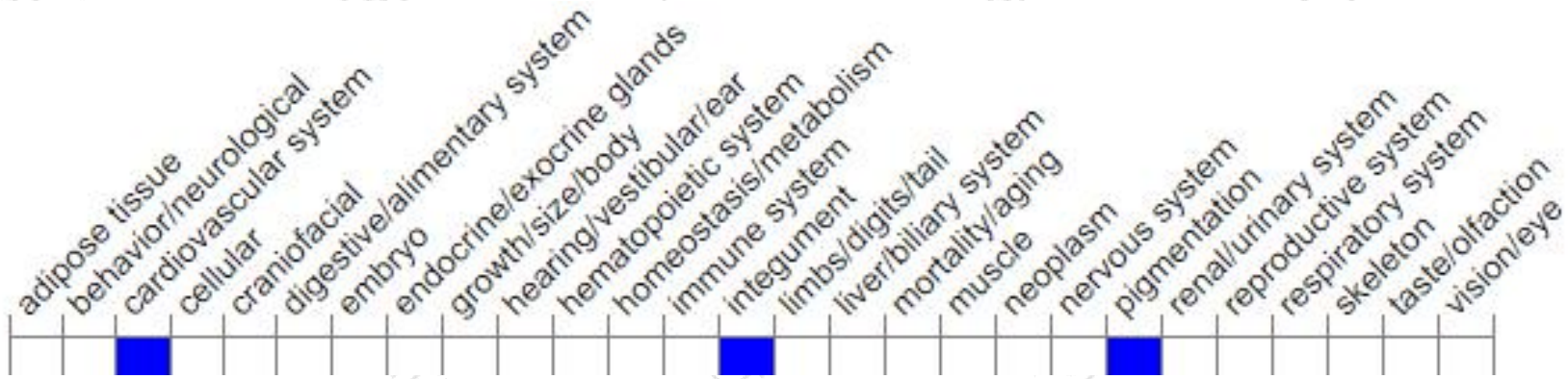
Genomic location distribution



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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