

Ccl20 Cas9-CKO Strategy

Designer:

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Design Date:

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Project Overview

Project Name

Ccl20

Project type

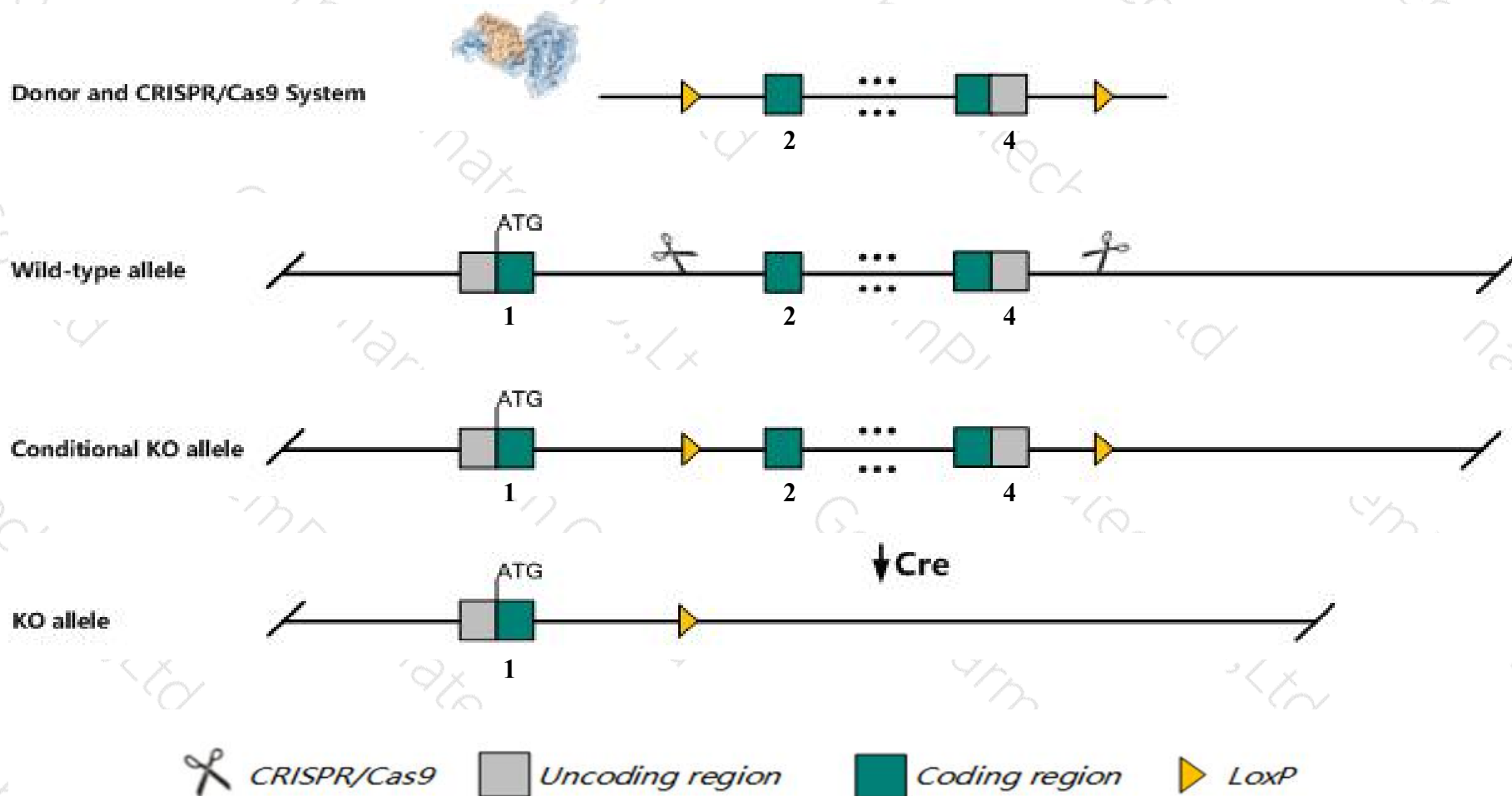
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ccl20* gene. The schematic diagram is as follows:



Technical routes

- The *Ccl20* gene has 3 transcripts. According to the structure of *Ccl20* gene, exon2-exon4 of *Ccl20-202* (ENSMUST00000113437.8) transcript is recommended as the knockout region. The region contains 215bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ccl20* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Ccl20* gene is located on the Chr1. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Ccl20 chemokine (C-C motif) ligand 20 [Mus musculus (house mouse)]

Gene ID: 20297, updated on 12-Mar-2019

Summary



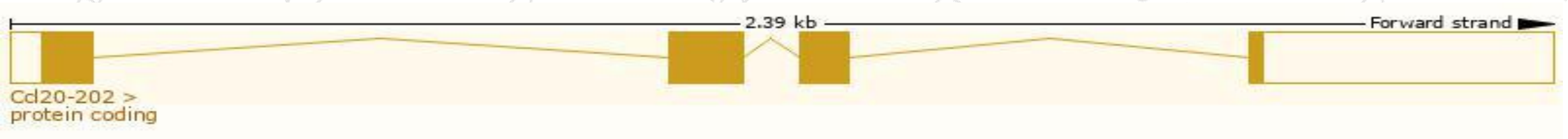
Official Symbol	Ccl20 provided by MGI
Official Full Name	chemokine (C-C motif) ligand 20 provided by MGI
Primary source	MGI:MGI:1329031
See related	Ensembl:ENSMUSG000000026166
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	CKb4, LARC, MIP-3A, MIP-3[a], MIP3A, ST38, Scya20, exodus-1
Expression	Biased expression in duodenum adult (RPKM 6.4), small intestine adult (RPKM 4.1) and 3 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

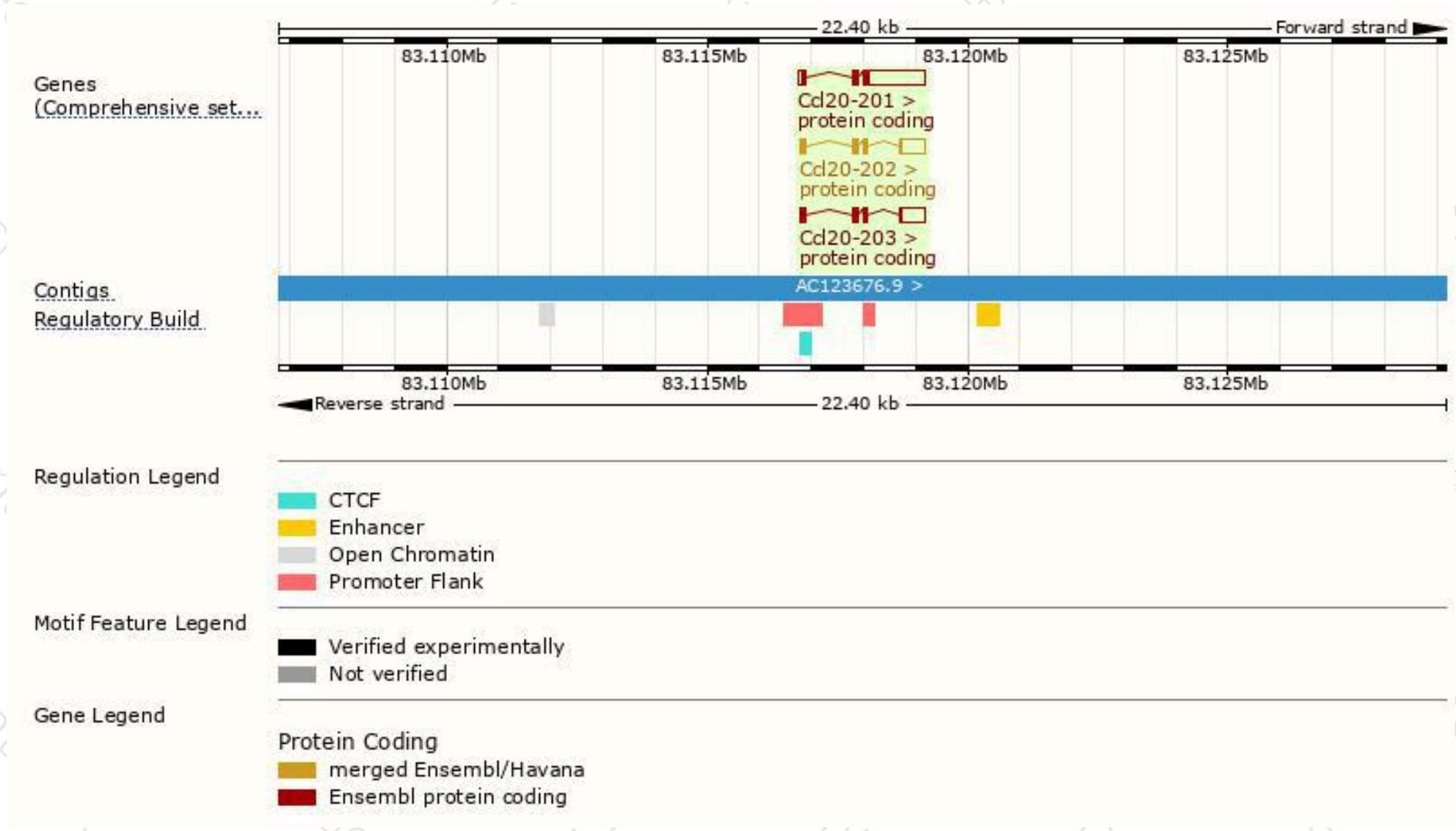
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ccl20-202	ENSMUST00000113437.8	794	97aa	Protein coding	CCDS35632	O89093 Q54AI7	TSL:1 GENCODE basic APPRIS P3
Ccl20-203	ENSMUST00000186832.1	772	96aa	Protein coding	CCDS78638	O89093 Q642U4	TSL:1 GENCODE basic APPRIS ALT2
Ccl20-201	ENSMUST00000027351.12	1417	102aa	Protein coding	-	F8WHA7	TSL:1 GENCODE basic

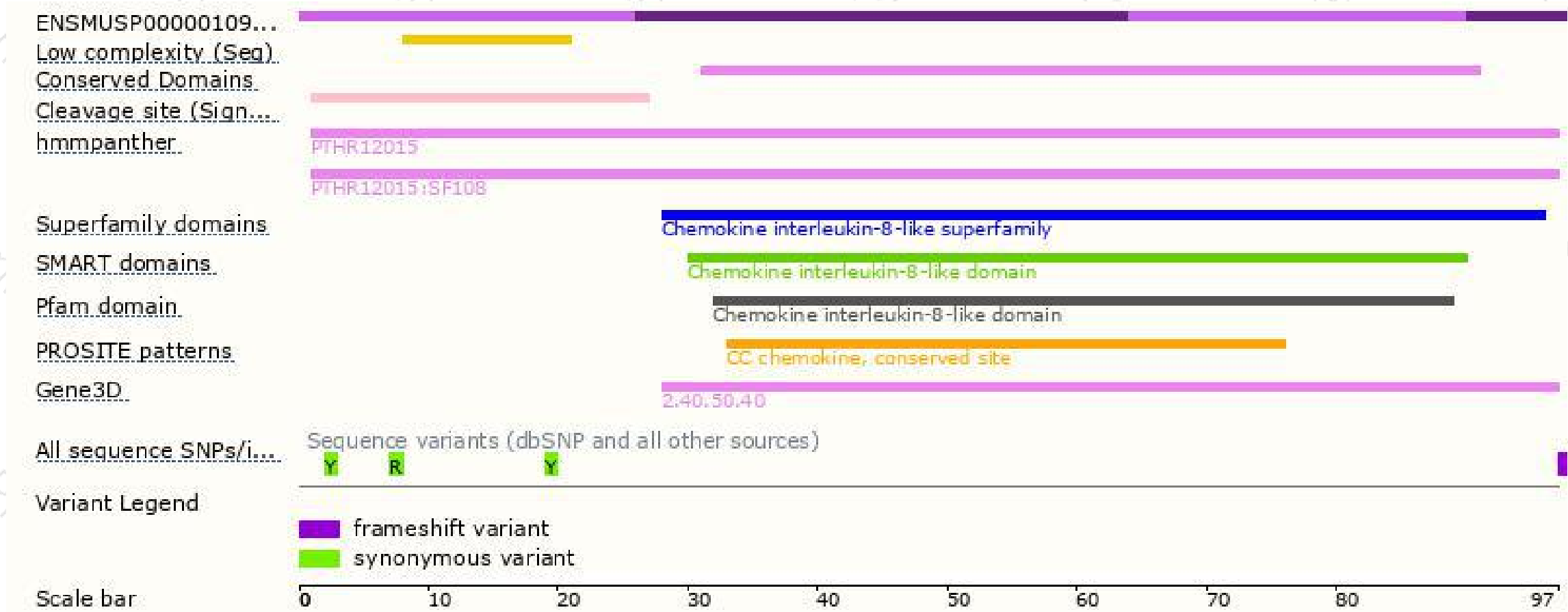
The strategy is based on the design of *Ccl20-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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