

Cfp Cas9-KO Strategy

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Design Date: 2019-7-22

Project Overview

Project Name

Cfp

Project type

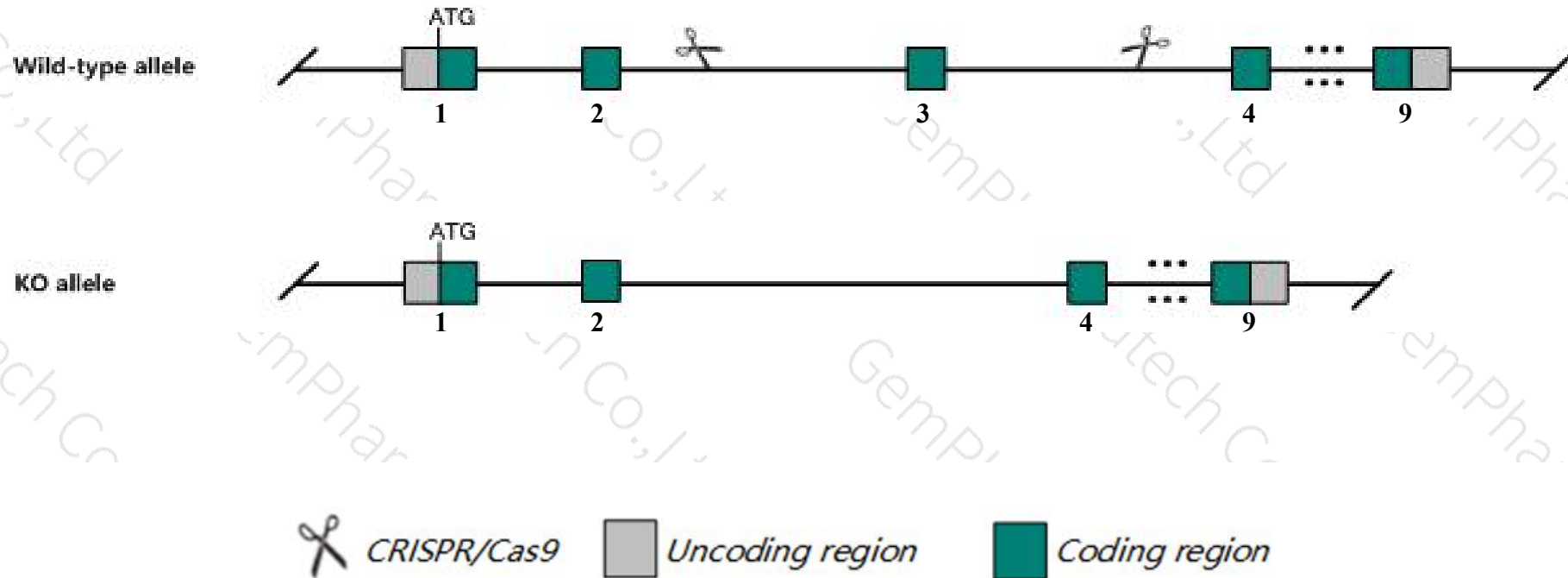
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Cfp* gene has 2 transcripts. According to the structure of *Cfp* gene, exon3 of *Cfp-201* (ENSMUST00000001156.7) transcript is recommended as the knockout region. The region contains 176bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cfp* gene. The brief process is as follows: CRISPR/Cas9 system w

- According to the existing MGI data, Homozygotes for targeted null mutations have defects in the alternative complement pathway.
- The knockout region is near to the N-terminal of *Syn1* gene, this strategy may influence the regulatory function of the N-terminal of *Syn1* gene.
- The *Cfp* gene is located on the ChrX. 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)

Cfp complement factor properdin [Mus musculus (house mouse)]

Gene ID: 18636, updated on 31-Jan-2019

Summary



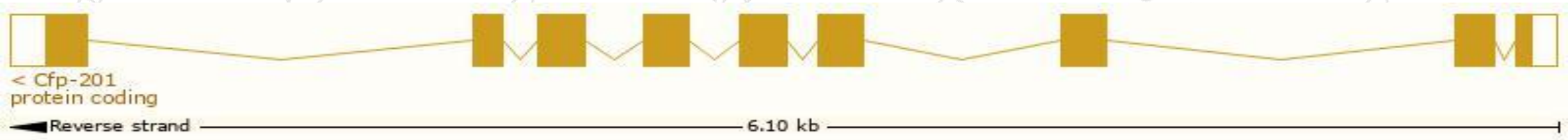
Official Symbol	Cfp provided by MGI
Official Full Name	complement factor properdin provided by MGI
Primary source	MGI:MGI:97545
See related	Ensembl:ENSMUSG00000001128
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	BCFG, Pfc
Expression	Broad expression in spleen adult (RPKM 86.6), mammary gland adult (RPKM 42.7) and 25 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

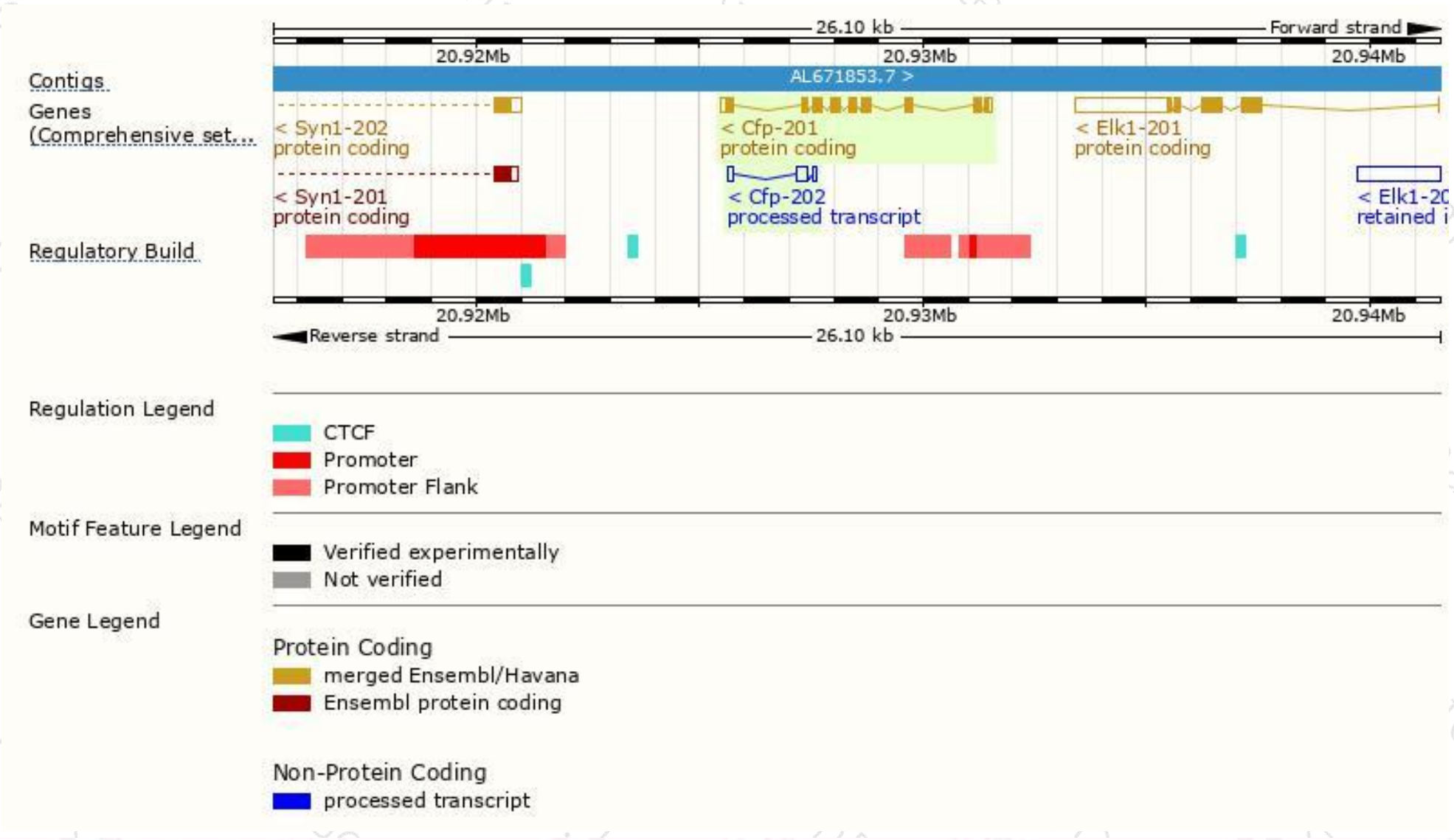
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cfp-201	ENSMUST00000001156.7	1636	464aa	Protein coding	CCDS30047	A2AE15 P11680	TSL:1 GENCODE basic APPRIS P1
Cfp-202	ENSMUST00000122862.1	401	No protein	Processed transcript	-	-	TSL:2

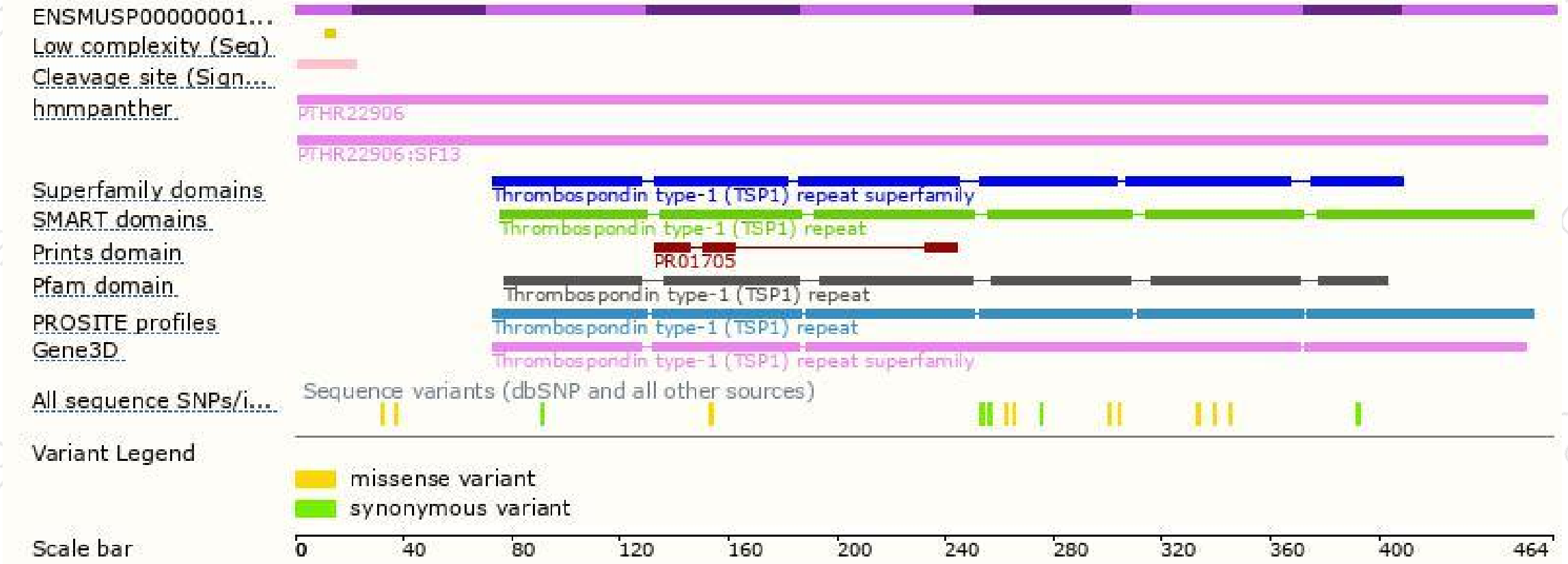
The strategy is based on the design of *Cfp-201* transcript,The transcription is shown below



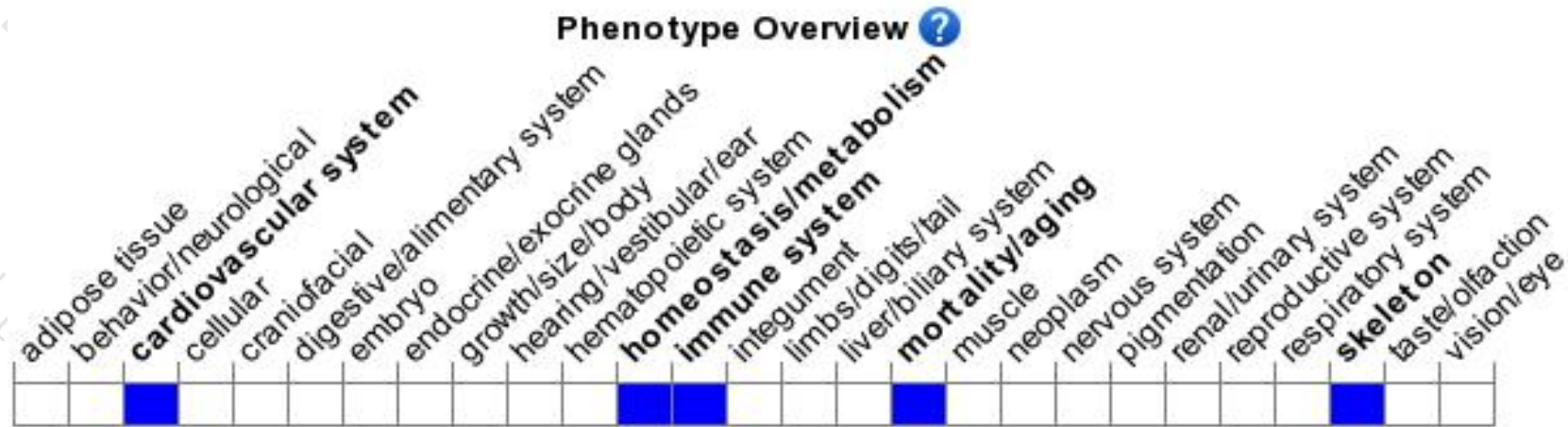
Genomic location distribution



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, Homozygotes for targeted null mutations have defects in the alternative complement pathway.

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

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