

Cpne3 Cas9-KO Strategy

Designer: Xueting Zhang

Reviewer: Daohua Xu

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Project Overview

Project Name

Cpne3

Project type

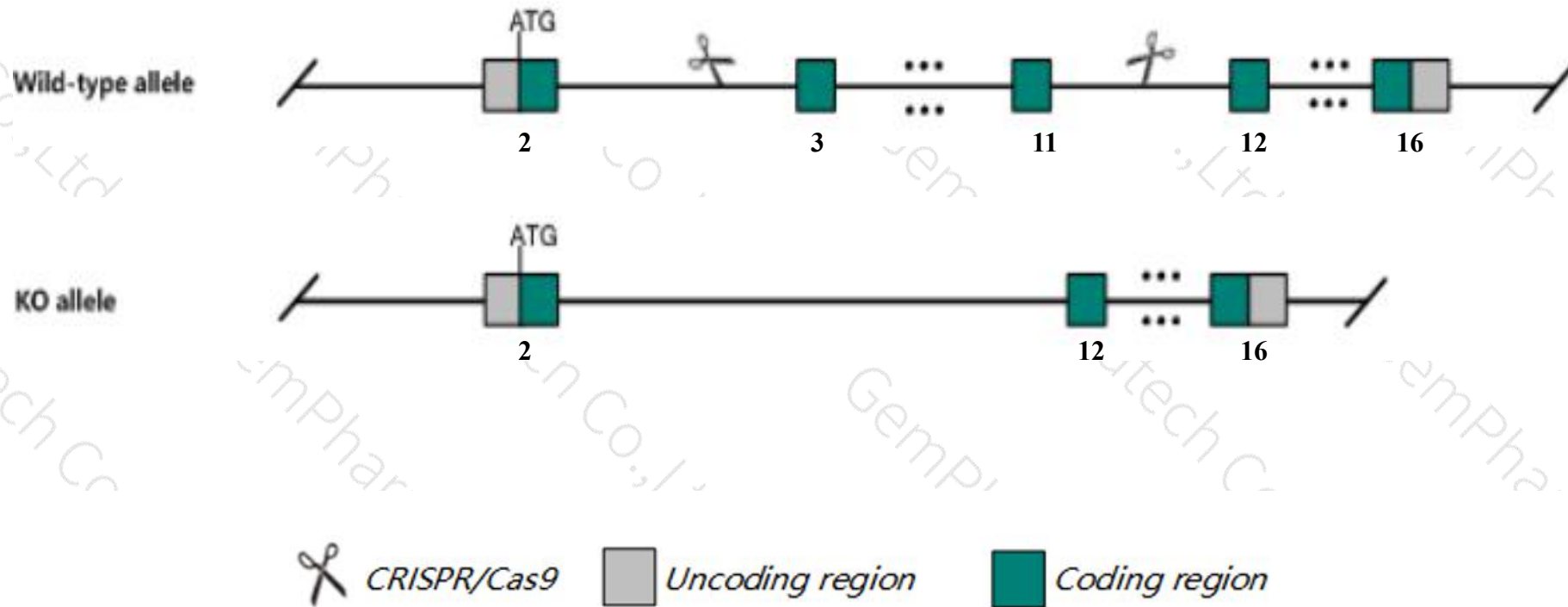
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cpne3* gene. The schematic diagram is as follows:



- The *Cpne3* gene has 3 transcripts. According to the structure of *Cpne3* gene, exon3-exon11 of *Cpne3-201* (ENSMUST00000029885.4) transcript is recommended as the knockout region. The region contains 881bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cpne3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Cpne3* gene is located on the Chr4. 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)

Cpne3 copine III [Mus musculus (house mouse)]

Gene ID: 70568, updated on 13-Mar-2020

Summary



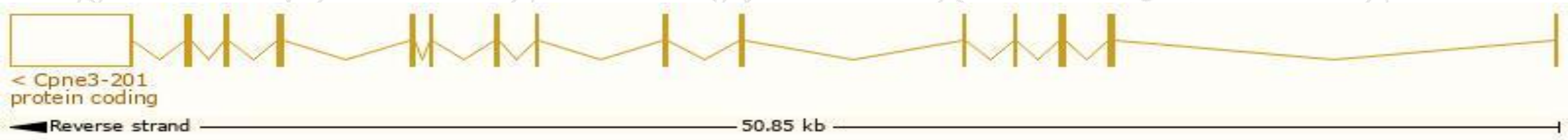
Official Symbol	Cpne3 provided by MGI
Official Full Name	copine III provided by MGI
Primary source	MGI:MGI:1917818
See related	Ensembl:ENSMUSG00000028228
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	5430428M23Rik, 5730450C07Rik, C85108, CPN3
Summary	Calcium-dependent membrane-binding proteins may regulate molecular events at the interface of the cell membrane and cytoplasm. This gene is one of several genes that encodes a calcium-dependent protein containing two N-terminal type II C2 domains and an integrin A domain-like sequence in the C-terminus. [provided by RefSeq, Jul 2008]
Expression	Ubiquitous expression in bladder adult (RPKM 13.3), kidney adult (RPKM 8.0) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

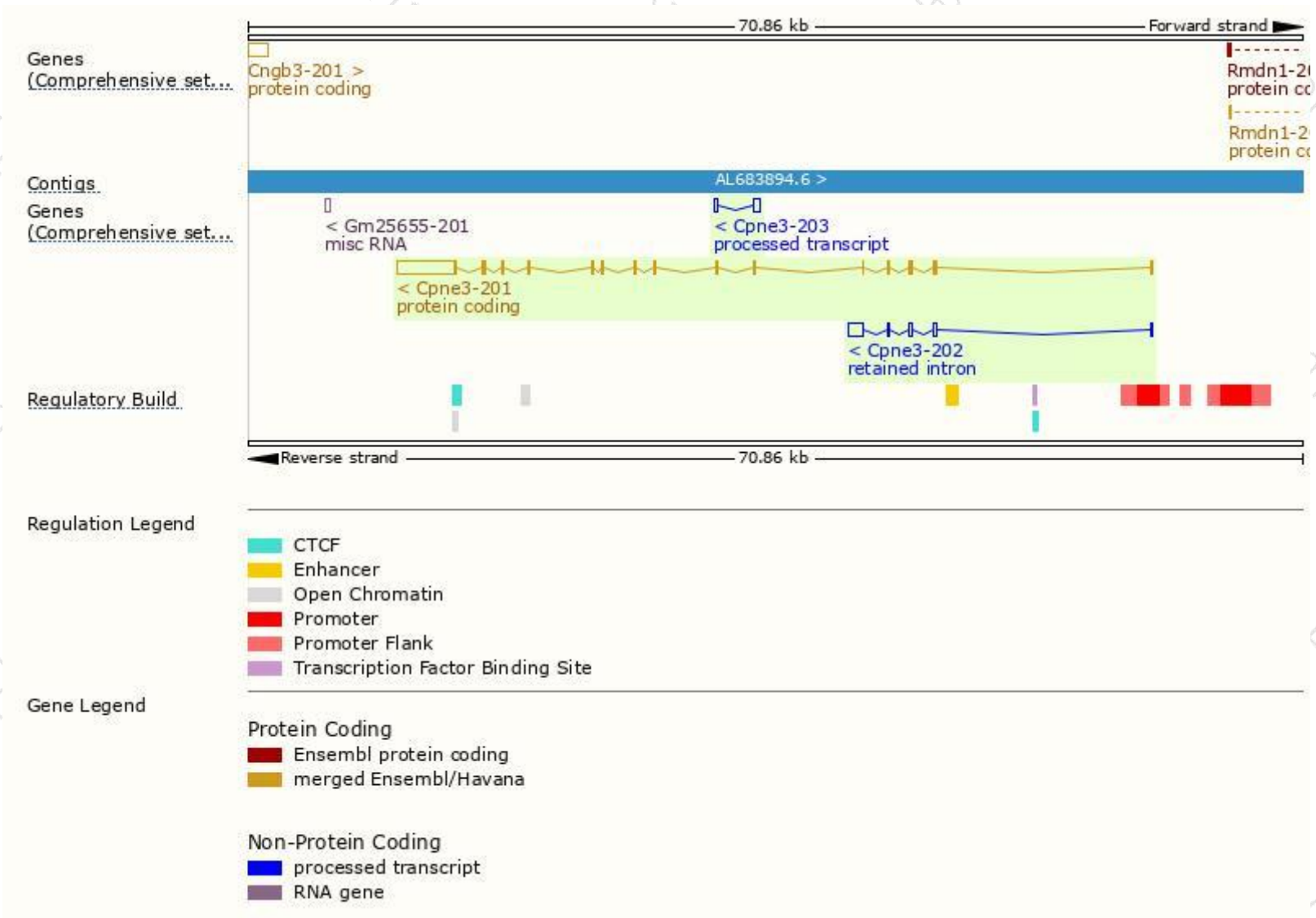
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cpne3-201	ENSMUST00000029885.4	5648	533aa	Protein coding	CCDS17991	Q8BT60	TSL:1 GENCODE basic APPRIS P1
Cpne3-203	ENSMUST00000134025.1	644	No protein	Processed transcript	-	-	TSL:3
Cpne3-202	ENSMUST00000108254.1	1563	No protein	Retained intron	-	-	TSL:1

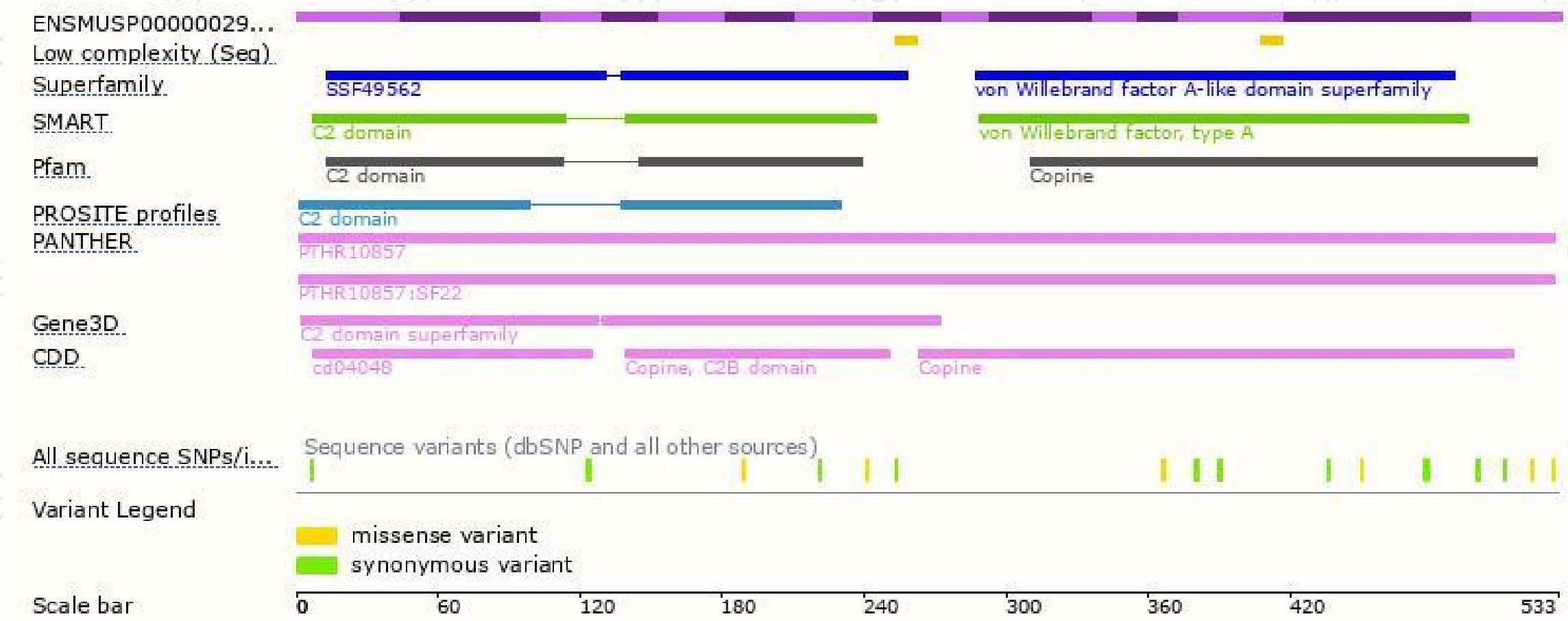
The strategy is based on the design of *Cpne3-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

Tel: 400-9660890

