

Cops7b Cas9-KO Strategy

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Project Overview



Project Name

Cops7b

Project type

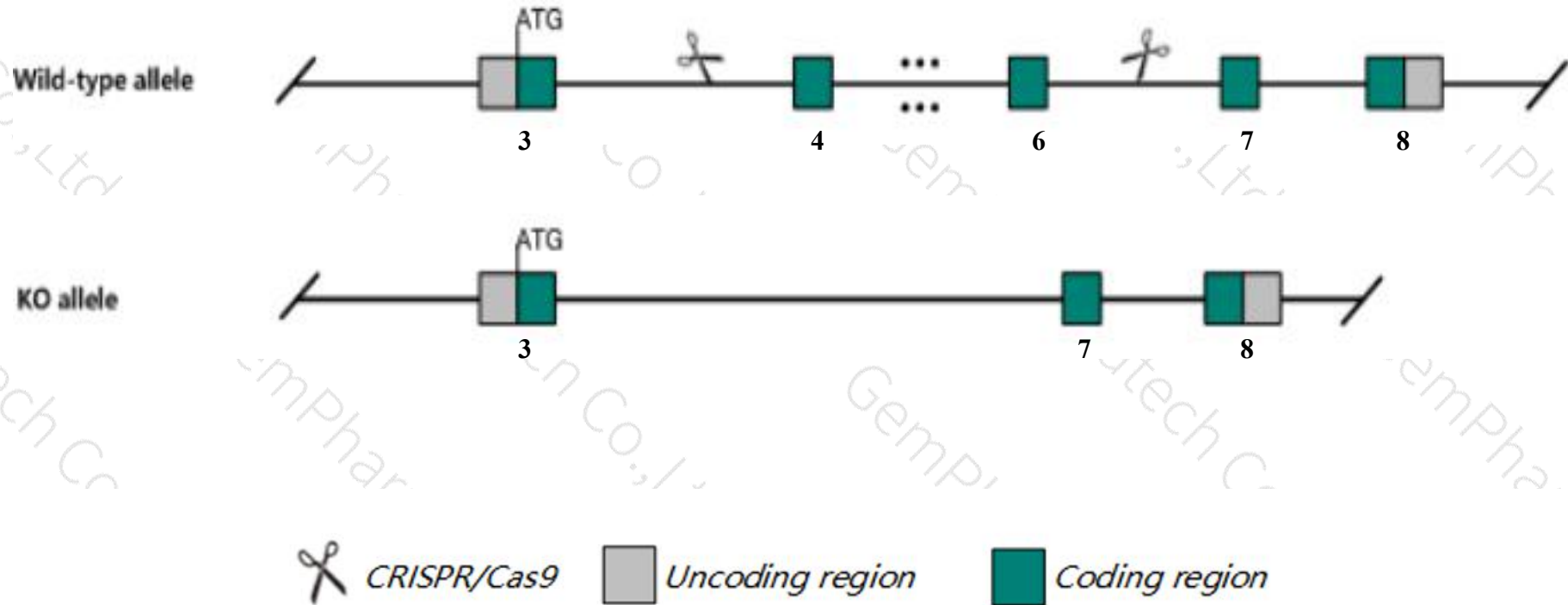
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cops7b* gene. The schematic diagram is as follows:



- The *Cops7b* gene has 6 transcripts. According to the structure of *Cops7b* gene, exon4-exon6 of *Cops7b-202* (ENSMUST00000121534.7) transcript is recommended as the knockout region. The region contains 368bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cops7b* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Cops7b* 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.
- The effect on transcript *Cops7b-206* is unknown.
- 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)

Cops7b COP9 signalosome subunit 7B [Mus musculus (house mouse)]

Gene ID: 26895, updated on 13-Mar-2020

Summary



Official Symbol	Cops7b provided by MGI
Official Full Name	COP9 signalosome subunit 7B provided by MGI
Primary source	MGI:MGI:1349388
See related	Ensembl:ENSMUSG00000026240
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	D1Wsu66e, E130114M23
Expression	Ubiquitous expression in whole brain E14.5 (RPKM 20.7), CNS E14 (RPKM 19.9) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

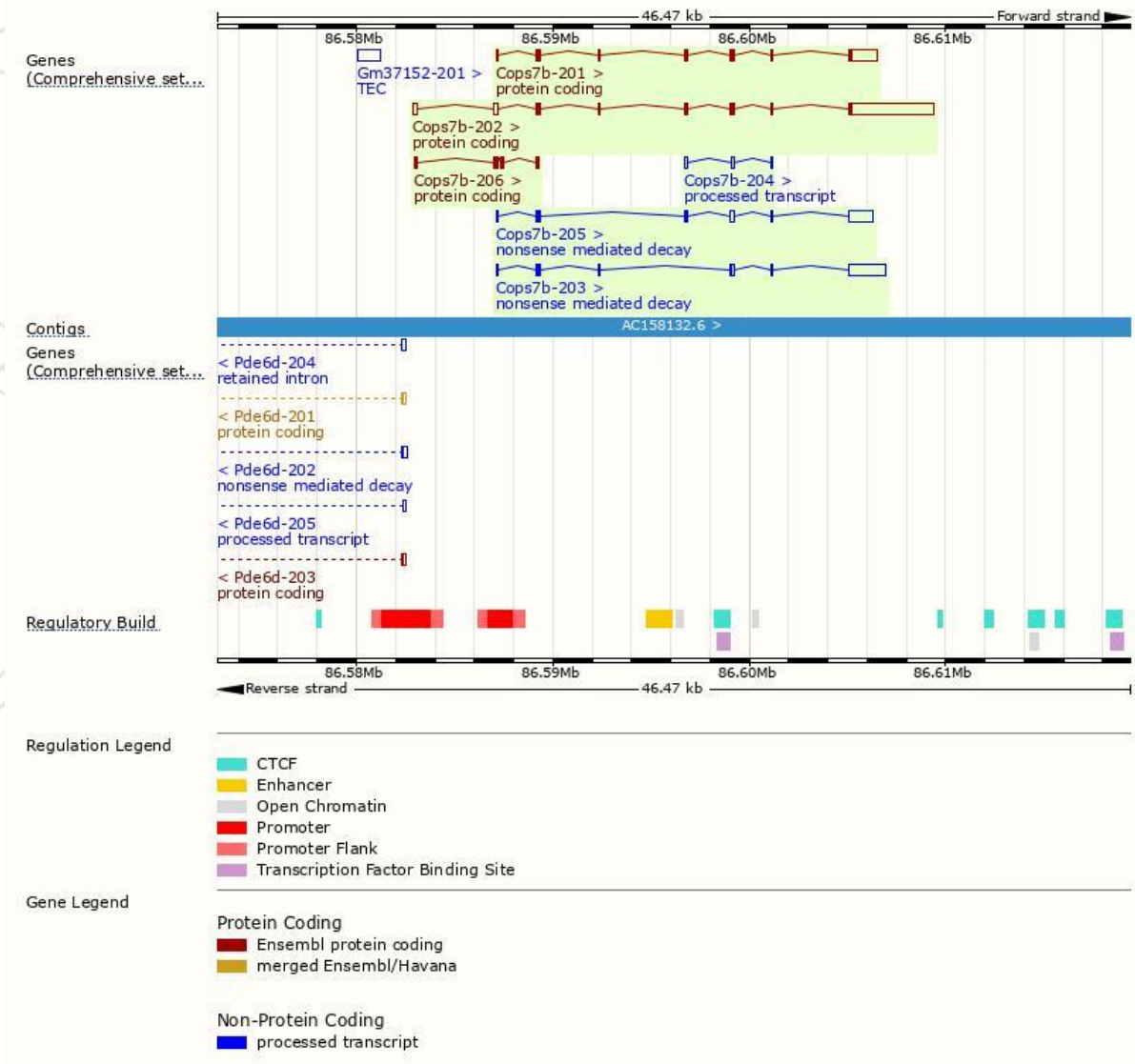
The gene has 6 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cops7b-202	ENSMUST00000121534.7	5383	264aa	Protein coding	CCDS15122	Q8BV13	TSL:5 GENCODE basic APPRIS P1
Cops7b-201	ENSMUST00000027446.10	2231	264aa	Protein coding	CCDS15122	Q8BV13	TSL:1 GENCODE basic APPRIS P1
Cops7b-206	ENSMUST00000149542.1	630	199aa	Protein coding	-	D3Z6T8	CDS 3' incomplete TSL:3
Cops7b-203	ENSMUST00000122884.1	2578	103aa	Nonsense mediated decay	-	D6RI85	TSL:1
Cops7b-205	ENSMUST00000138280.7	1950	62aa	Nonsense mediated decay	-	D6RH36	TSL:5
Cops7b-204	ENSMUST00000127219.1	286	No protein	Processed transcript	-	-	TSL:5

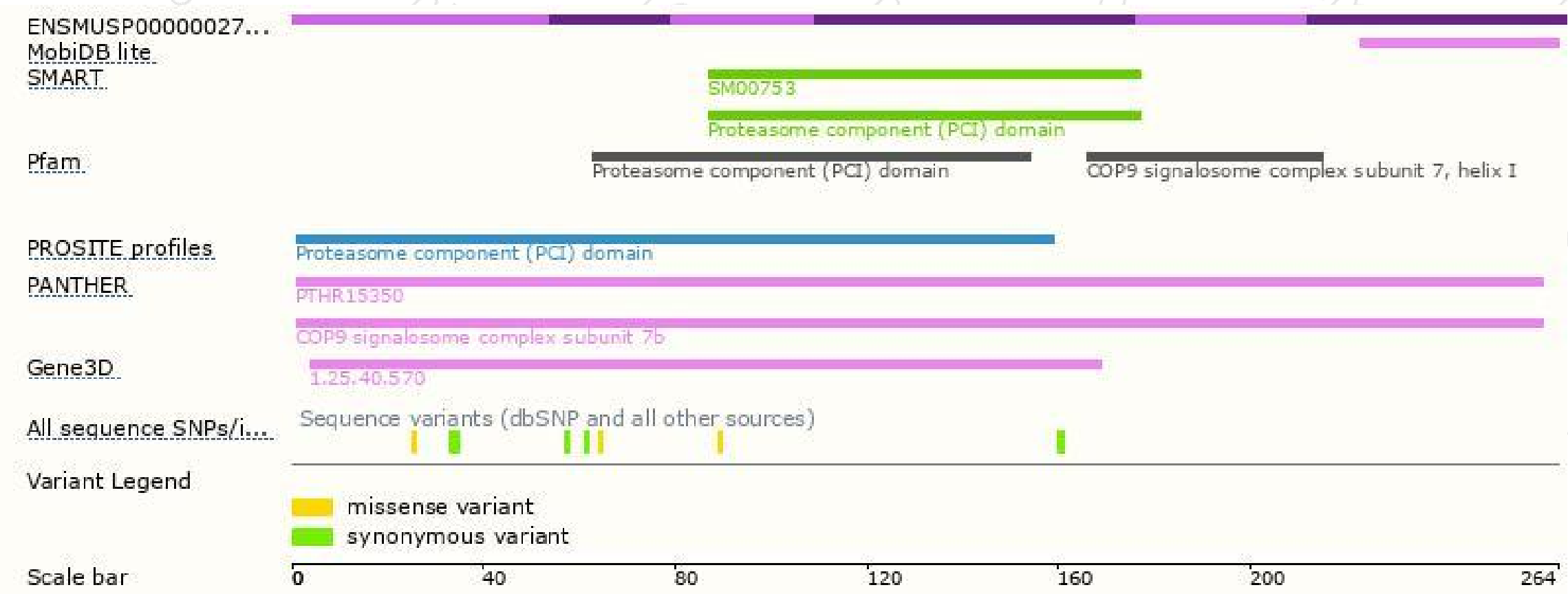
The strategy is based on the design of *Cops7b-202* transcript, the transcription is shown below:



Genomic location distribution



Protein domain



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

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