Copz2 Cas9-KO Strategy

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Project Overview

Project Name	*Copz2*
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

This model will use CRISPR/Cas9 technology to edit the *Copz2* gene. The schematic diagram is as follows:

Technical routes

➢ The *Copz2* gene has 5 transcripts. According to the structure of *Copz2* gene, exon3-exon6 of *Copz2-201* (ENSMUST00000018816.13) transcript is recommended as the knockout region.The region contains 308bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Copz2* gene. The brief process is as follows: CRISPR/Cas9 system we

Notice

Gene information （NCBI）

Copz2 coatomer protein complex, subunit zeta 2 [*Mus musculus* (house mouse)]

Gene ID: 56358, updated on 13-Mar-2020

Summary

|	
Official Symbol	Copz2 provided by MGI
Official Full Name	coatomer protein complex, subunit zeta 2 provided by MGI
Primary source	MGI:MGI:1929008
See related	Ensembl:ENSMUSG00000018672
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	zeta2-COP; 1110012D12Rik
Expression	Ubiquitous expression in bladder adult (RPKM 34.8), limb E14.5 (RPKM 33.8) and 28 other tissues See more
Orthologs	human all

Genomic context

Location: 11; 11 D   See Copz2 in Genome Data Viewer

Exon count: 9

Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	11	NC_000077.6 (96849876..96861203)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	11	NC_000077.5 (96711190..96722517)

Chromosome 11 - NC_000077.6

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GemPharmatech Co., Ltd.   400-9660890
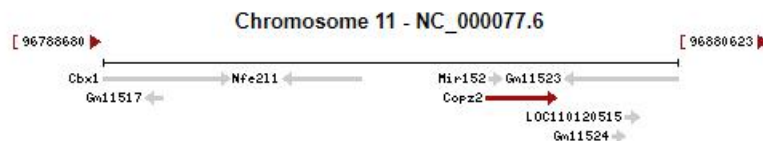
Transcript information（Ensembl）

The gene has 5 transcripts,all transcripts are shown below:

| Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Copz2-201	ENSMUST00000018816.13	930	205aa	Protein coding	CCDS25305	Q9JHH9	TSL:1 GENCODE basic APPRIS P1
Copz2-203	ENSMUST00000147710.1	581	51aa	Nonsense mediated decay	-	F6WZN3	CDS 5' incomplete TSL:3
Copz2-202	ENSMUST00000145633.1	407	68aa	Nonsense mediated decay	-	F2Z4A2	TSL:5
Copz2-205	ENSMUST00000155696.1	1045	No protein	Retained intron	-	-	TSL:1
Copz2-204	ENSMUST00000154191.1	653	No protein	Retained intron	-	-	TSL:5

The strategy is based on the design of *Copz2-201* transcript,the transcription is shown below
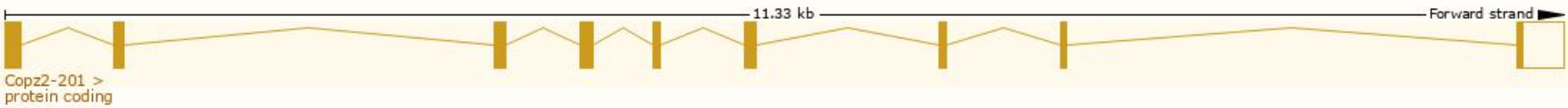
Genomic location distribution
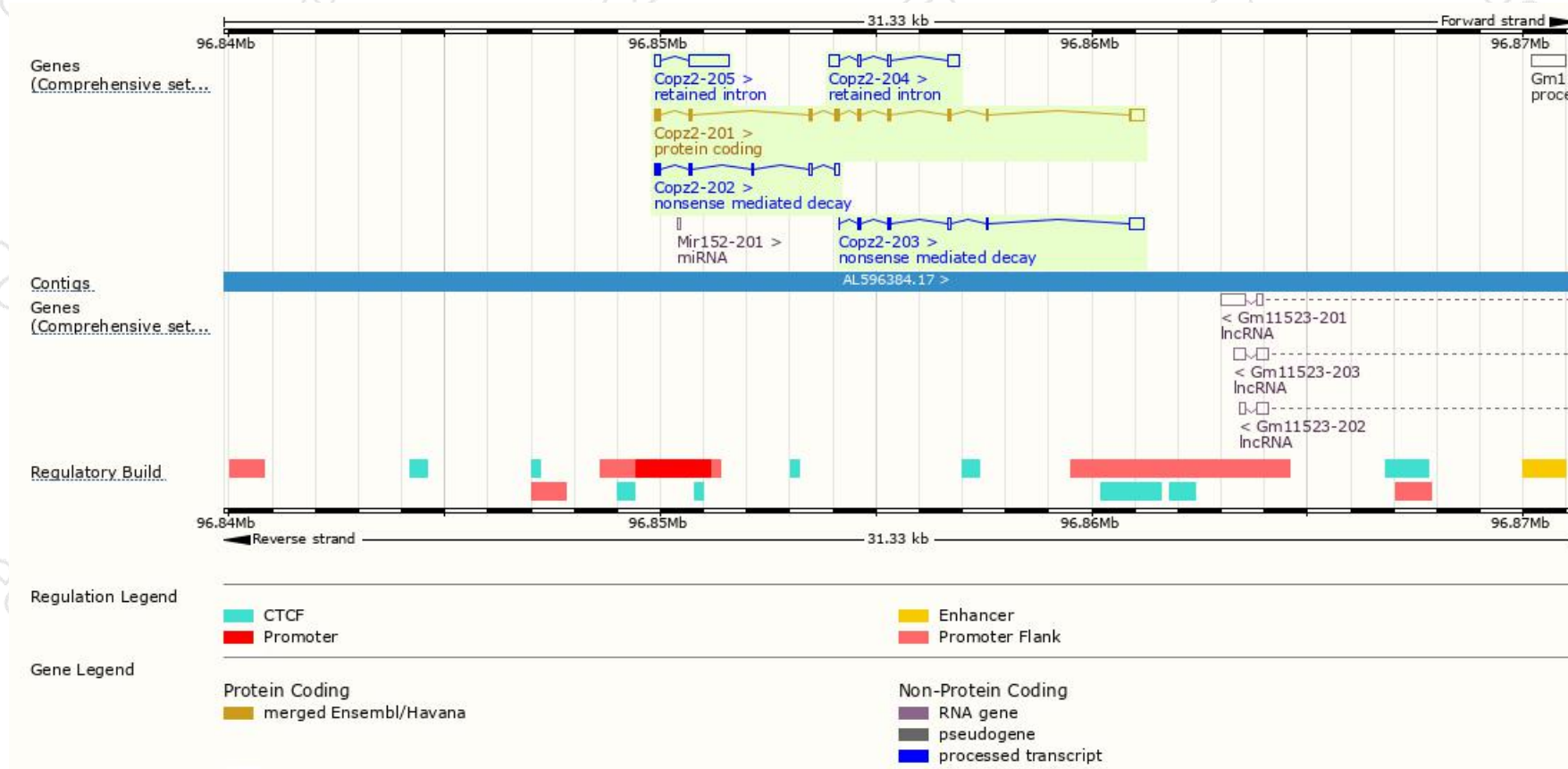
Protein domain
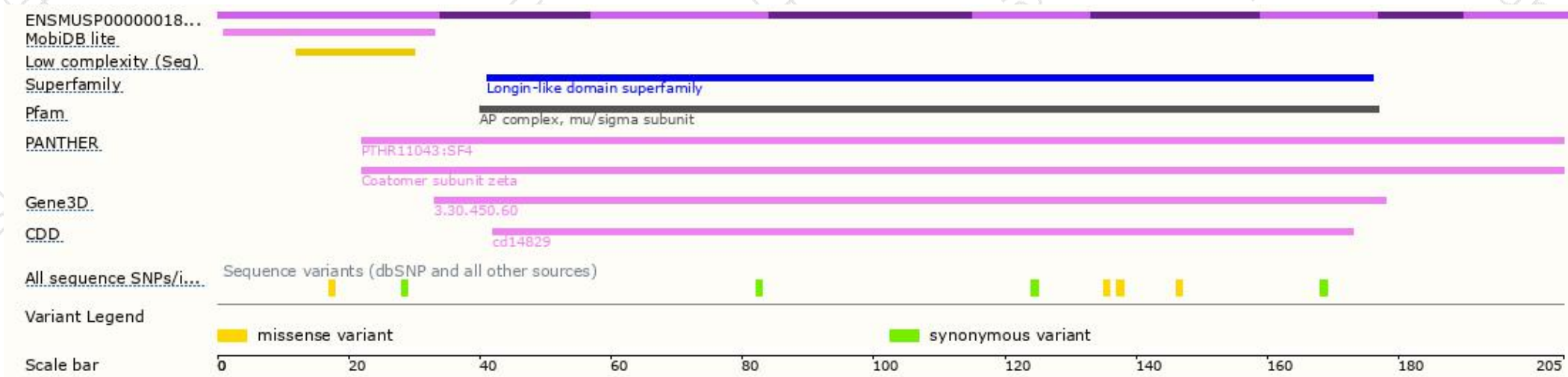
If you have any questions, you are welcome to inquire.
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