

Cpd Cas9-KO Strategy

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Project Overview

Project Name

Cpd

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Cpd* gene has 3 transcripts. According to the structure of *Cpd* gene, exon2 of *Cpd-201* (ENSMUST00000021201.5) transcript is recommended as the knockout region. The region contains 248bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cpd* gene. The brief process is as follows: CRISPR/Cas9 system w

- The N-terminal of *Cpd* gene will remain several amino acids, it may remain the partial function of *Cpd* gene.
- Transcript *Cpd*-2012&203 may not be affected.
- The *Cpd* gene is located on the Chr11. 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)

Cpd carboxypeptidase D [*Mus musculus* (house mouse)]

Gene ID: 12874, updated on 17-Dec-2019

Summary

Official Symbol Cpd provided by [MGI](#)
Official Full Name carboxypeptidase D provided by [MGI](#)
Primary source [MGI:MGI:107265](#)
See related [Ensembl:ENSMUSG00000020841](#)
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 AA960140; AW322530; D830034L15Rik
Expression Ubiquitous expression in colon adult (RPKM 23.5), ovary adult (RPKM 18.7) and 28 other tissues [See more](#)
Orthologs [human](#) [all](#)

Genomic context

Location: 11 B5; 11 46.05 cM See Cpd in [Genome Data Viewer](#)
Exon count: 21

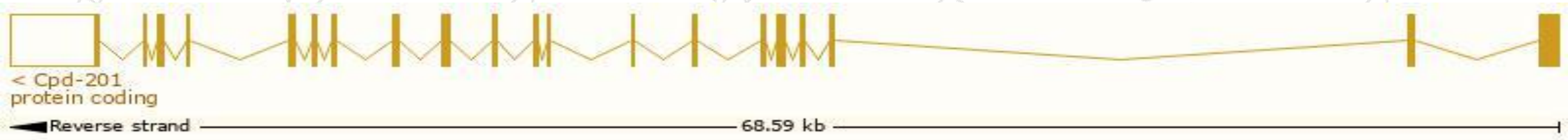
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	11	NC_000077.6 (76777208..76847008, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	11	NC_000077.5 (76590710..76660510, complement)

Transcript information (Ensembl)

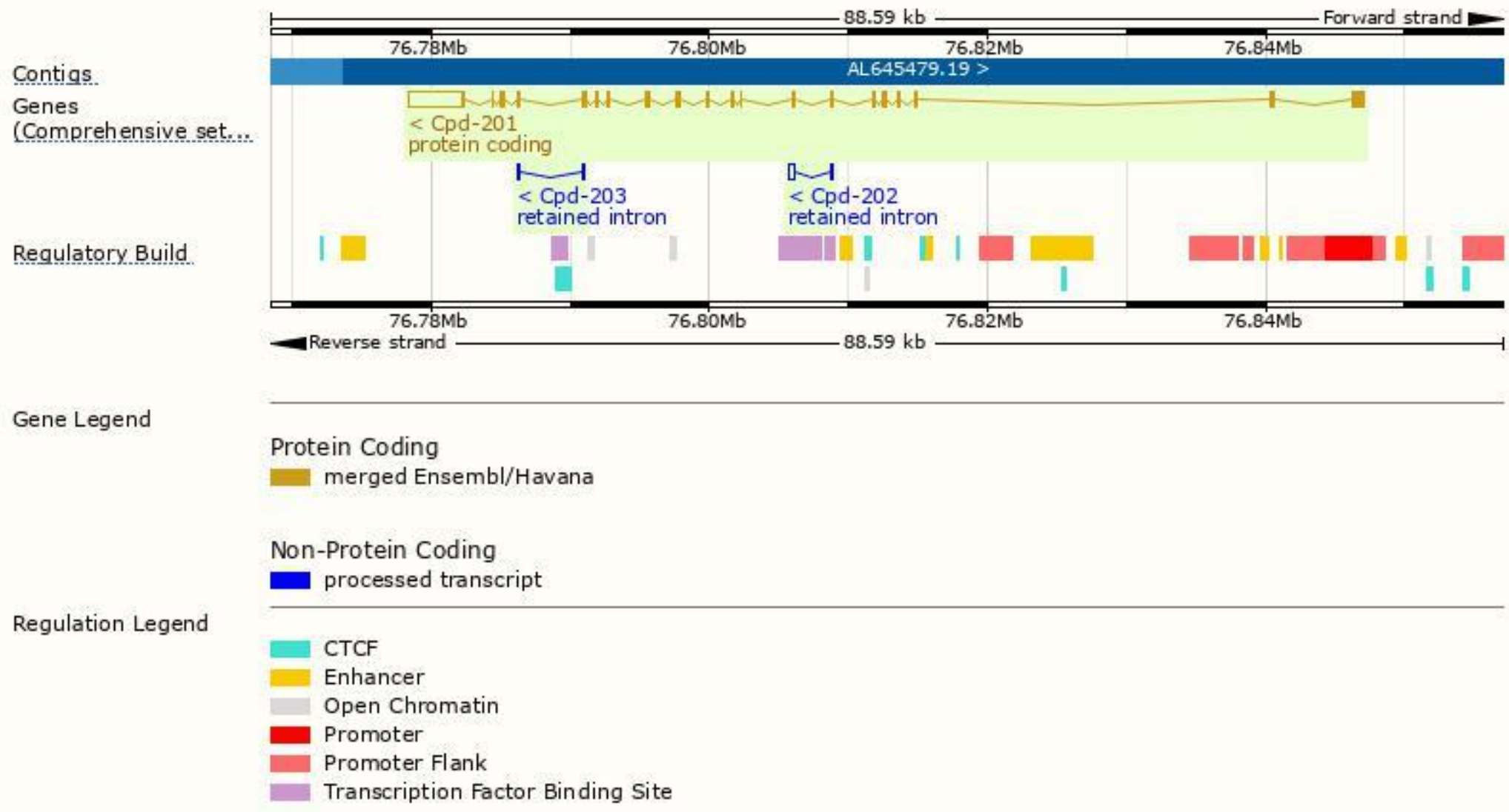
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cpd-201	ENSMUST00000021201.5	7946	1377aa	Protein coding	CCDS25071	O89001	TSL:1 GENCODE basic APPRIS P1
Cpd-202	ENSMUST00000132796.1	487	No protein	Retained intron	-	-	TSL:3
Cpd-203	ENSMUST00000151584.1	351	No protein	Retained intron	-	-	TSL:3

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



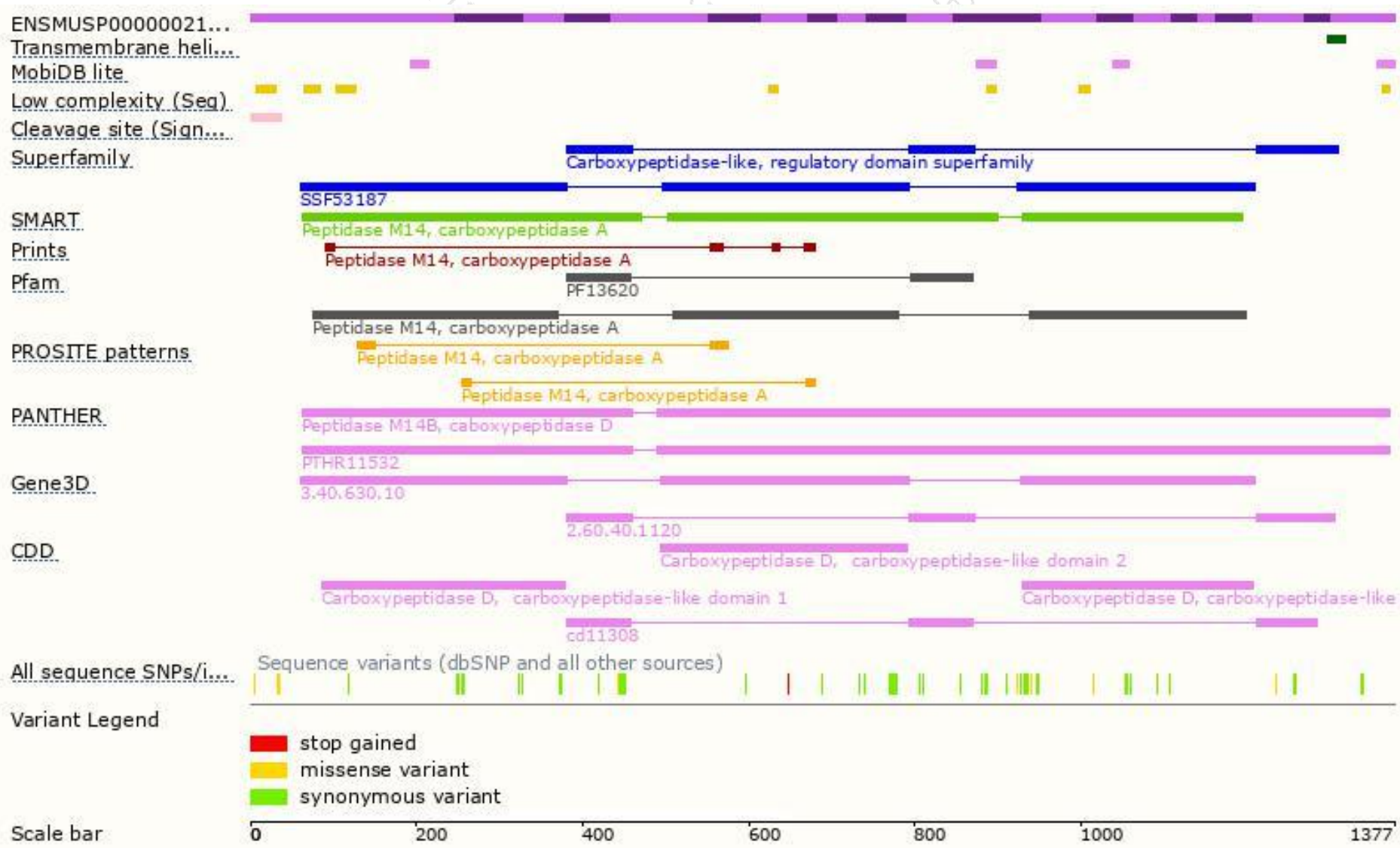
Genomic location distribution



Protein domain



集萃药康
GemPharmatech



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

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