

Cct6a Cas9-KO Strategy

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Project Overview

Project Name

Cct6a

Project type

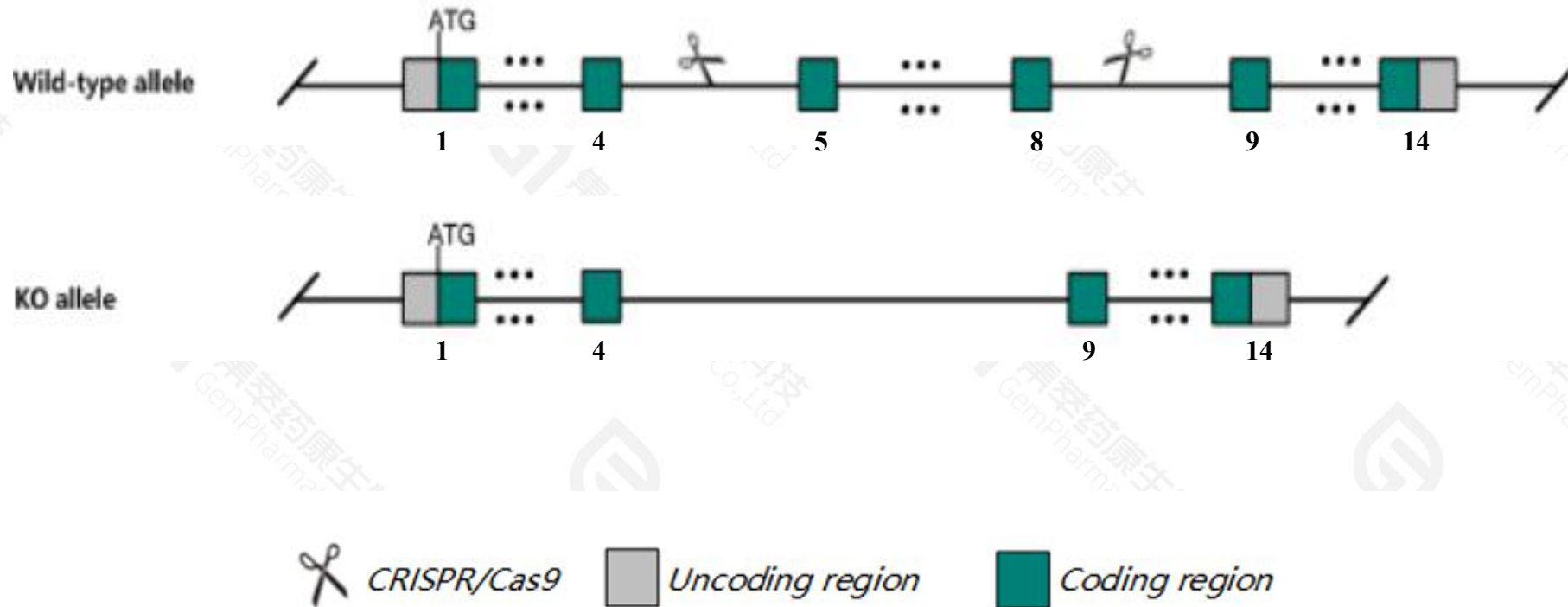
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cct6a* gene. The schematic diagram is as follows:



- The *Cct6a* gene has 4 transcripts. According to the structure of *Cct6a* gene, exon5-exon8 of *Cct6a-201*(ENSMUST00000201414.5) transcript is recommended as the knockout region. The region contains 458bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cct6a* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The KO region contains functional region of the *Psph*, *Gm23245* and *Snora15* gene. Knockout the region may affect the function of *Psph*, *Gm23245* and *Snora15* gene.
- The *Cct6a* gene is located on the Chr5. 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)

Cct6a chaperonin containing Tcp1, subunit 6a (zeta) [Mus musculus (house mouse)]

Gene ID: 12466, updated on 17-Feb-2021

Summary



Official Symbol Cct6a provided by [MGI](#)

Official Full Name chaperonin containing Tcp1, subunit 6a (zeta) provided by [MGI](#)

Primary source [MGI:MGI:107943](#)

See related [Ensembl:ENSMUSG00000029447](#)

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 CCT-zeta, CCT-zeta-1, Cct6, Cctz-1, TCP-1-zeta

Expression Annotation category: suggests misassembly [See more](#)

Orthologs [human](#) [all](#)

Transcript information (Ensembl)

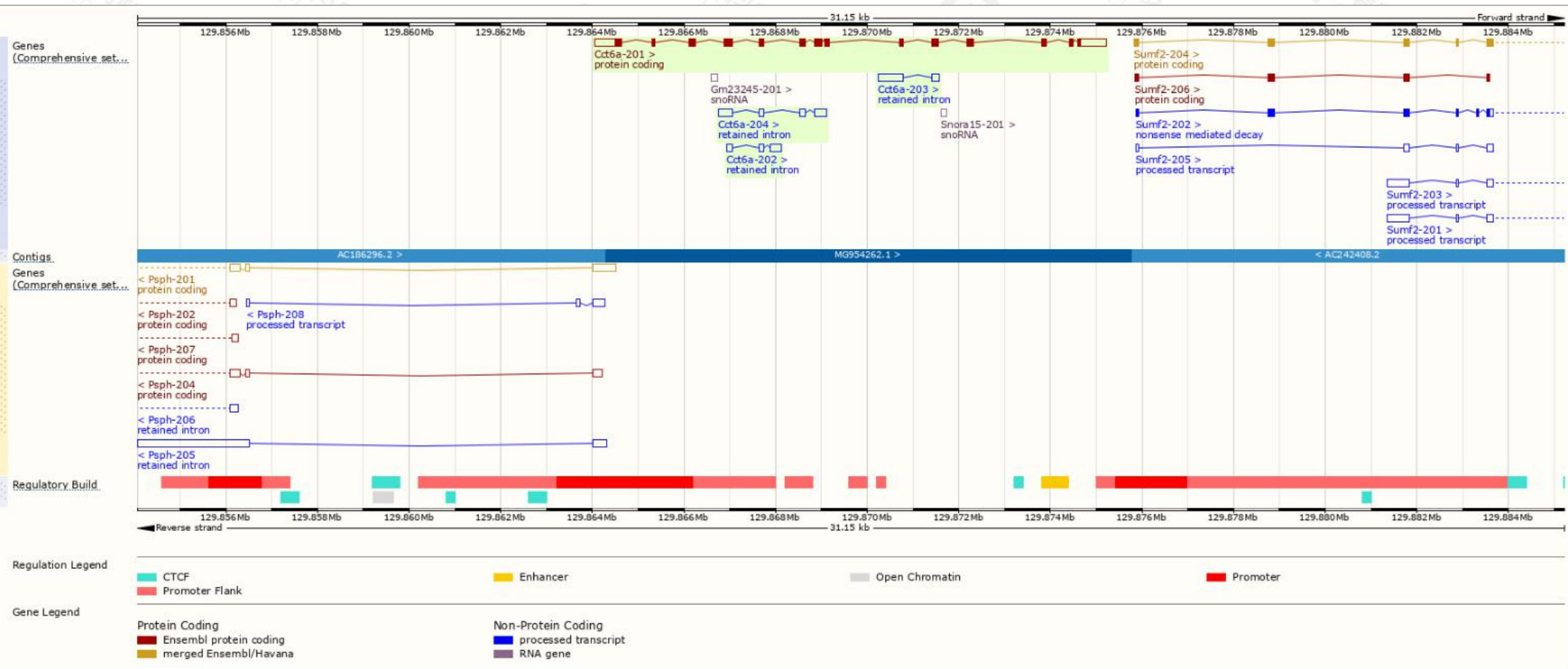
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cct6a-201	ENSMUST00000201414.5	2588	531aa	Protein coding	-		TSL:5 , GENCODE basic , APPRIS P1 ,
Cct6a-204	ENSMUST00000202854.5	800	No protein	Retained intron	-		TSL:2 ,
Cct6a-203	ENSMUST00000202262.2	701	No protein	Retained intron	-		TSL:2 ,
Cct6a-202	ENSMUST00000201653.3	459	No protein	Retained intron	-		TSL:3 ,

The strategy is based on the design of *Cct6a-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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