

Ccdc22 Cas9-KO Strategy

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Project Overview

Project Name

Ccdc22

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ccdc22* gene. The schematic diagram is as follows:



- The *Ccdc22* gene has 2 transcripts. According to the structure of *Ccdc22* gene, exon3 of *Ccdc22-201* (ENSMUST00000033483.4) transcript is recommended as the knockout region. The region contains 133bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ccdc22* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Ccdc22* gene is located on the ChrX. 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)

Ccdc22 coiled-coil domain containing 22 [Mus musculus (house mouse)]

Gene ID: 54638, updated on 13-Mar-2020

Summary



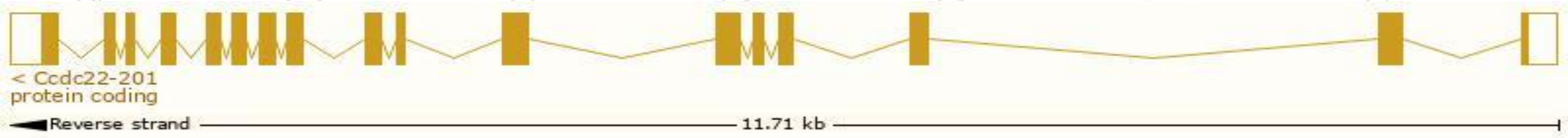
Official Symbol	Ccdc22 provided by MGI
Official Full Name	coiled-coil domain containing 22 provided by MGI
Primary source	MGI:MGI:1859608
See related	Ensembl:ENSMUSG00000031143
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI481216, DXImx40e, Ppp1r3f, Sfc22
Expression	Ubiquitous expression in CNS E14 (RPKM 12.7), thymus adult (RPKM 12.7) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

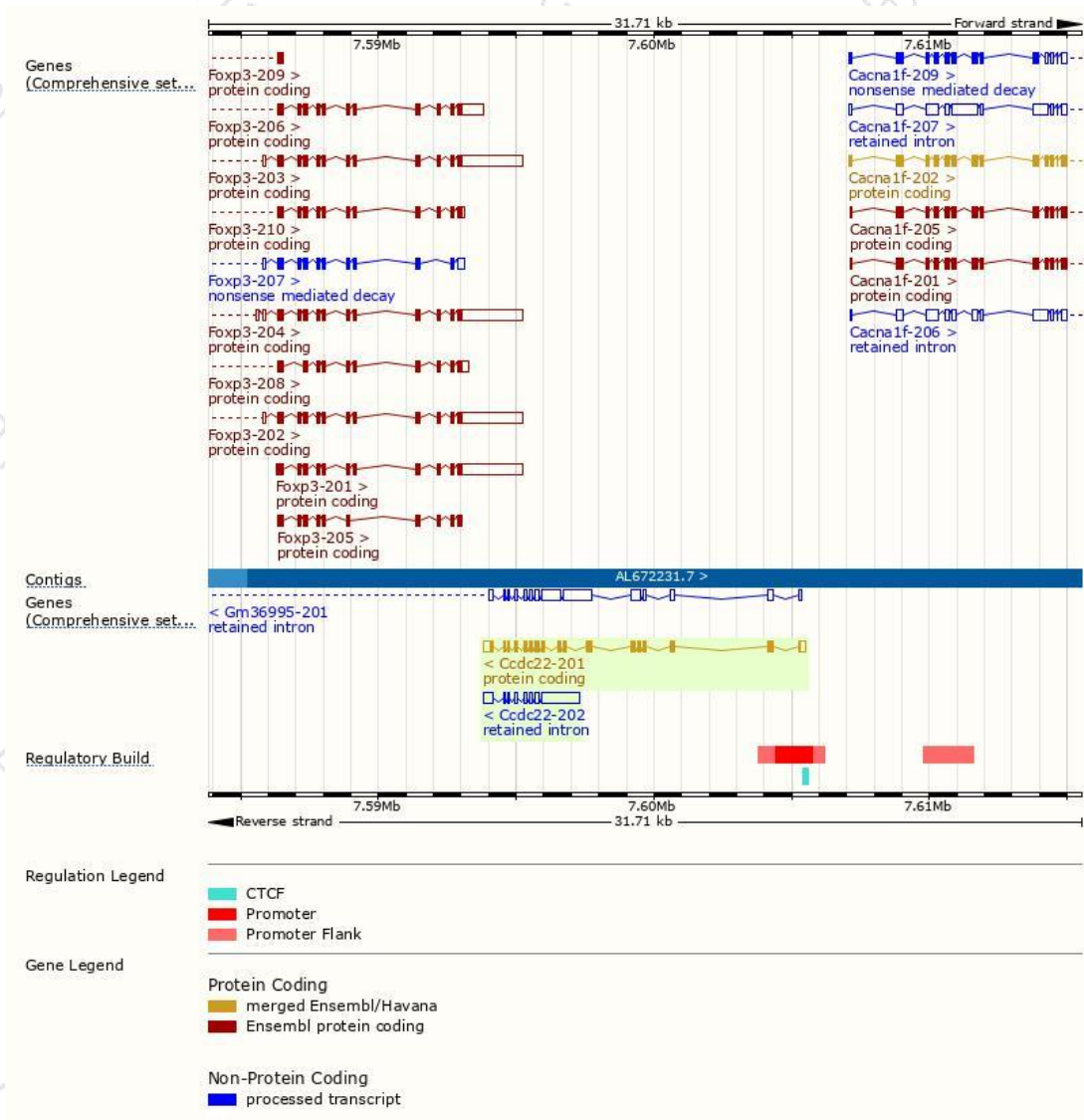
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ccdc22-201	ENSMUST00000033483.4	2353	627aa	Protein coding	CCDS29966	Q9JIG7	TSL:1 GENCODE basic APPRIS P1
Ccdc22-202	ENSMUST00000144674.1	2293	No protein	Retained intron	-	-	TSL:2

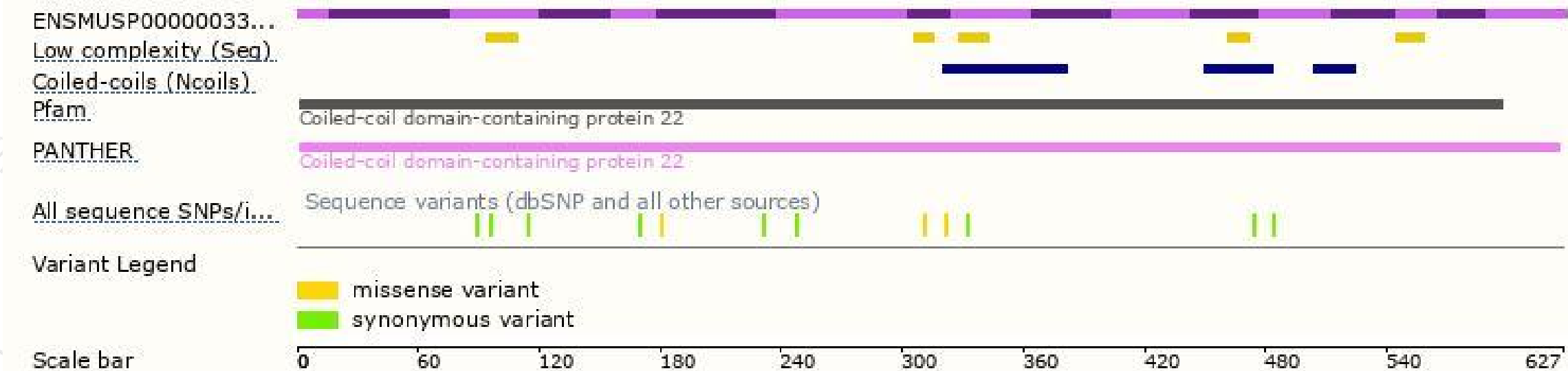
The strategy is based on the design of *Ccdc22-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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