

Ncapg Cas9-KO Strategy

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Project Overview

Project Name

Ncapg

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Ncapg* gene has 6 transcripts. According to the structure of *Ncapg* gene, exon3-exon5 of *Ncapg-201* (ENSMUST00000117396.2) transcript is recommended as the knockout region. The region contains 460bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ncapg* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Ncapg* 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)

Ncapg non-SMC condensin I complex, subunit G [Mus musculus (house mouse)]

Gene ID: 54392, updated on 31-Jan-2019

Summary



Official Symbol	Ncapg provided by MGI
Official Full Name	non-SMC condensin I complex, subunit G provided by MGI
Primary source	MGI:MGI:1930197
See related	Ensembl:ENSMUSG00000015880
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	5730507H05Rik, Hcapg, MFT.M05.13
Expression	Biased expression in liver E14 (RPKM 14.6), CNS E11.5 (RPKM 13.6) and 10 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

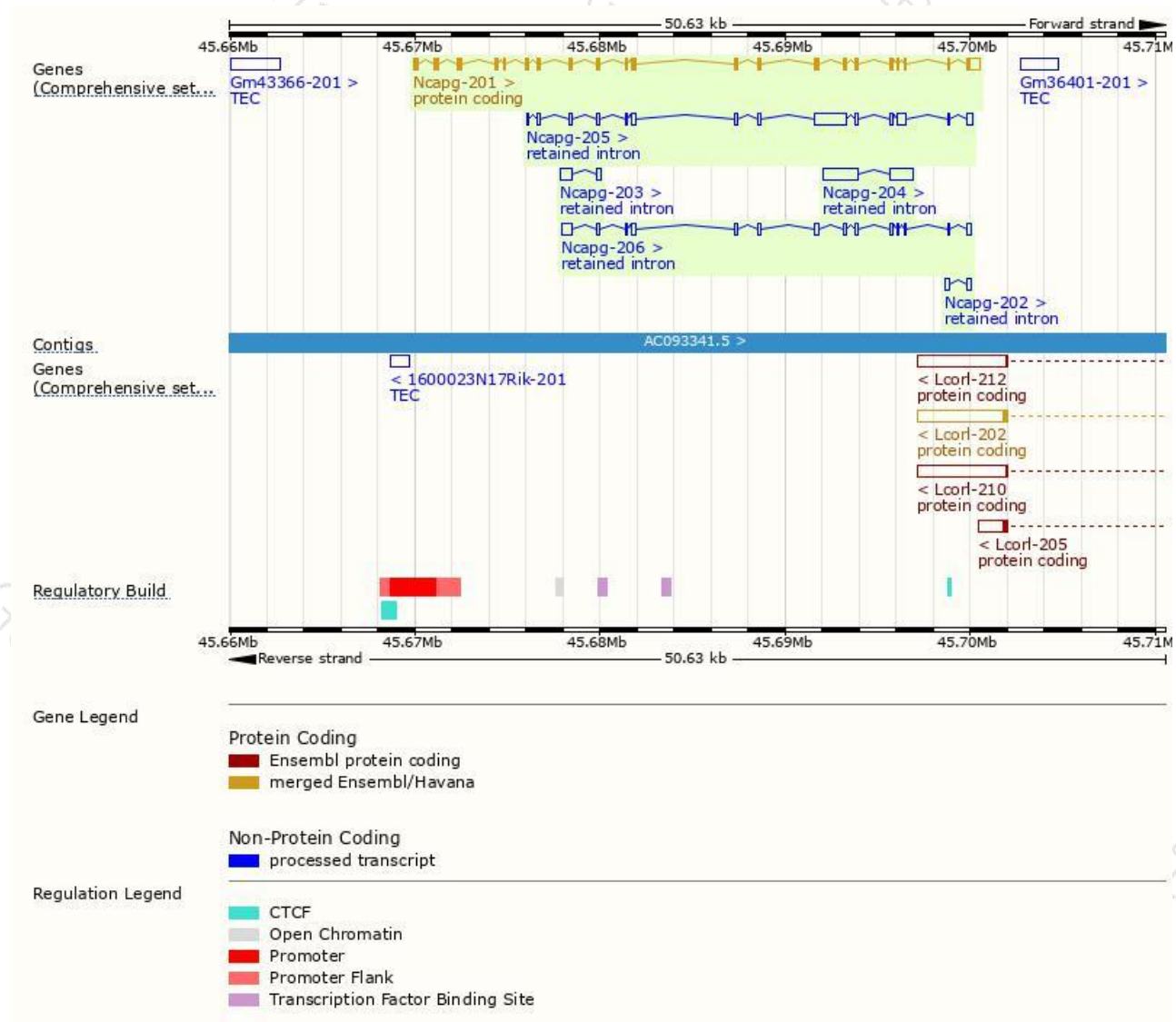
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ncapg-201	ENSMUST00000117396.2	3703	1004aa	Protein coding	CCDS51498	E9PWG6	TSL:5 GENCODE basic APPRIS P1
Ncapg-205	ENSMUST00000134309.5	3975	No protein	Retained intron	-	-	TSL:5
Ncapg-204	ENSMUST00000134090.1	3154	No protein	Retained intron	-	-	TSL:1
Ncapg-206	ENSMUST00000198274.1	2440	No protein	Retained intron	-	-	TSL:1
Ncapg-203	ENSMUST00000129562.1	803	No protein	Retained intron	-	-	TSL:5
Ncapg-202	ENSMUST00000123396.1	468	No protein	Retained intron	-	-	TSL:2

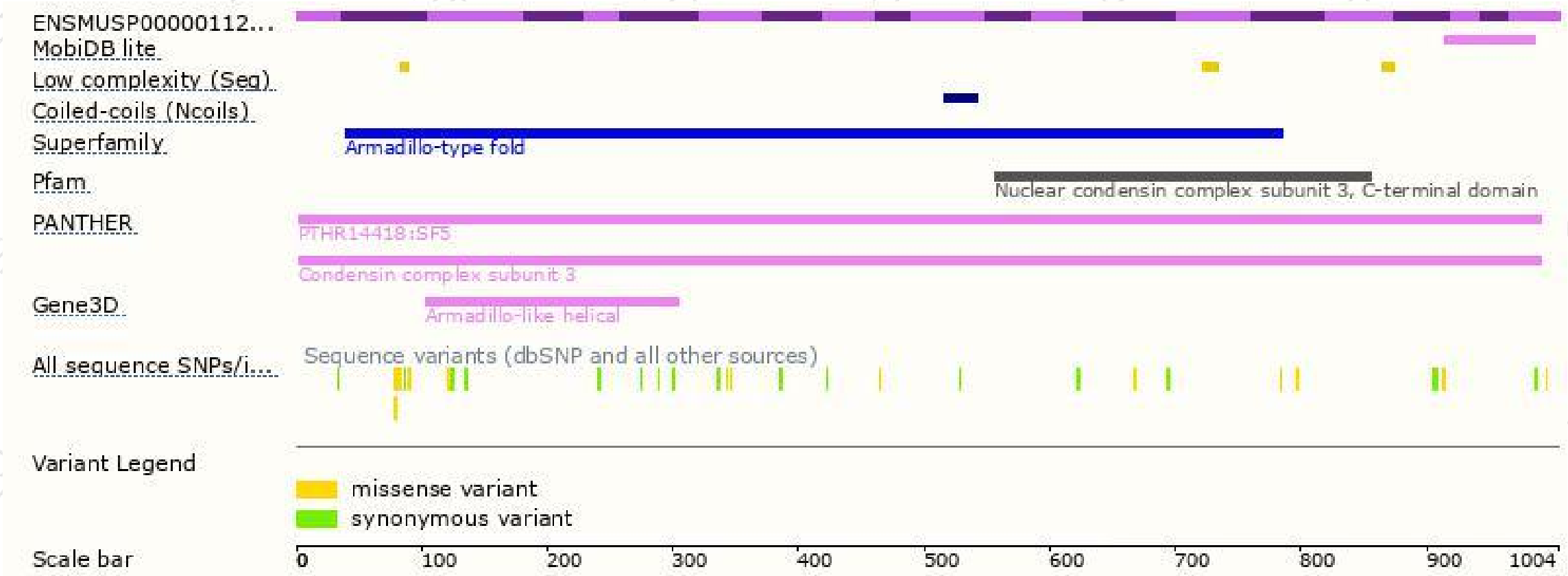
The strategy is based on the design of *Ncapg-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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