

***Dnah3* Cas9-KO Strategy**

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Project Overview

Project Name

Dnah3

Project type

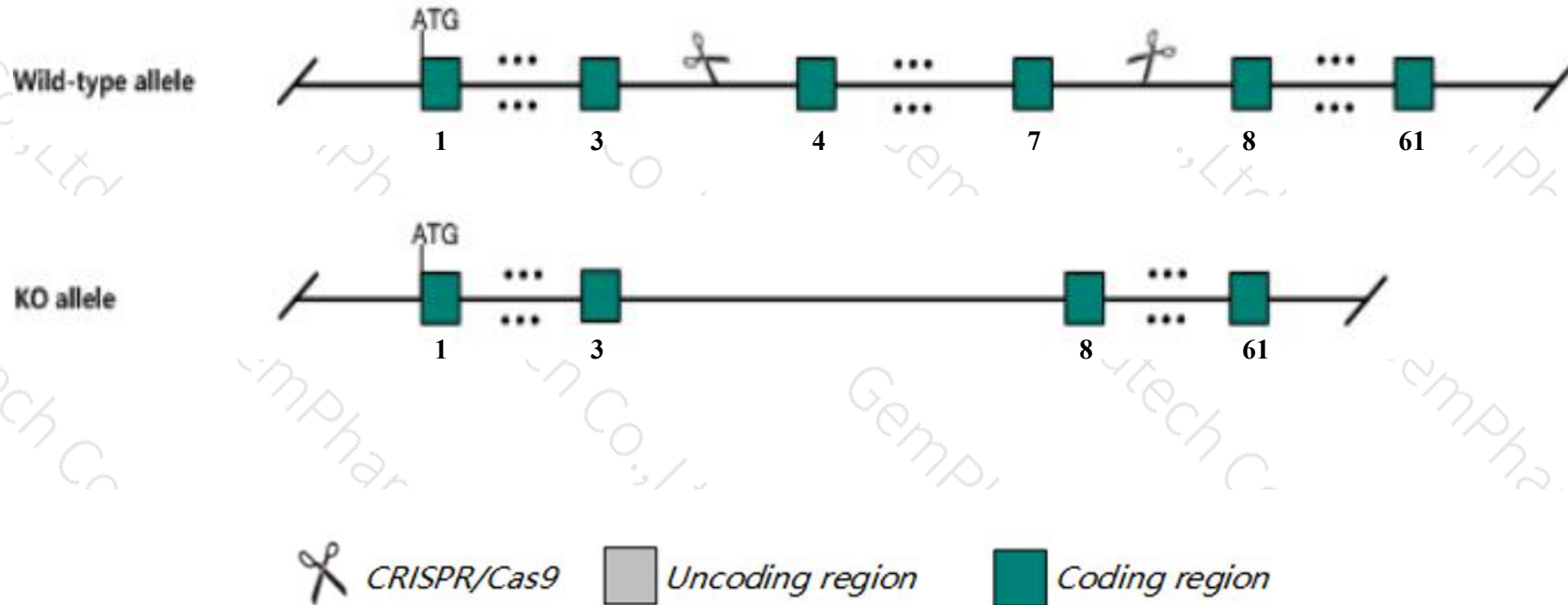
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnah3* gene. The schematic diagram is as follows:



- The *Dnah3* gene has 6 transcripts. According to the structure of *Dnah3* gene, exon4-exon7 of *Dnah3-201* (ENSMUST00000046993.3) transcript is recommended as the knockout region. The region contains 634bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dnah3* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

- The *Dnah3* gene is located on the Chr7. 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)

Dnah3 dynein, axonemal, heavy chain 3 [Mus musculus (house mouse)]

Gene ID: 381917, updated on 13-Mar-2020

Summary



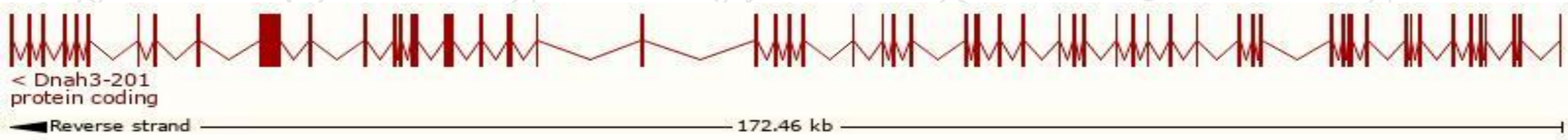
Official Symbol	Dnah3 provided by MGI
Official Full Name	dynein, axonemal, heavy chain 3 provided by MGI
Primary source	MGI:MGI:2683040
See related	Ensembl:ENSMUSG00000052273
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	BC051401, Dnahc3
Expression	Biased expression in testis adult (RPKM 6.4), lung adult (RPKM 1.6) and 1 other tissue See more
Orthologs	human all

Transcript information (Ensembl)

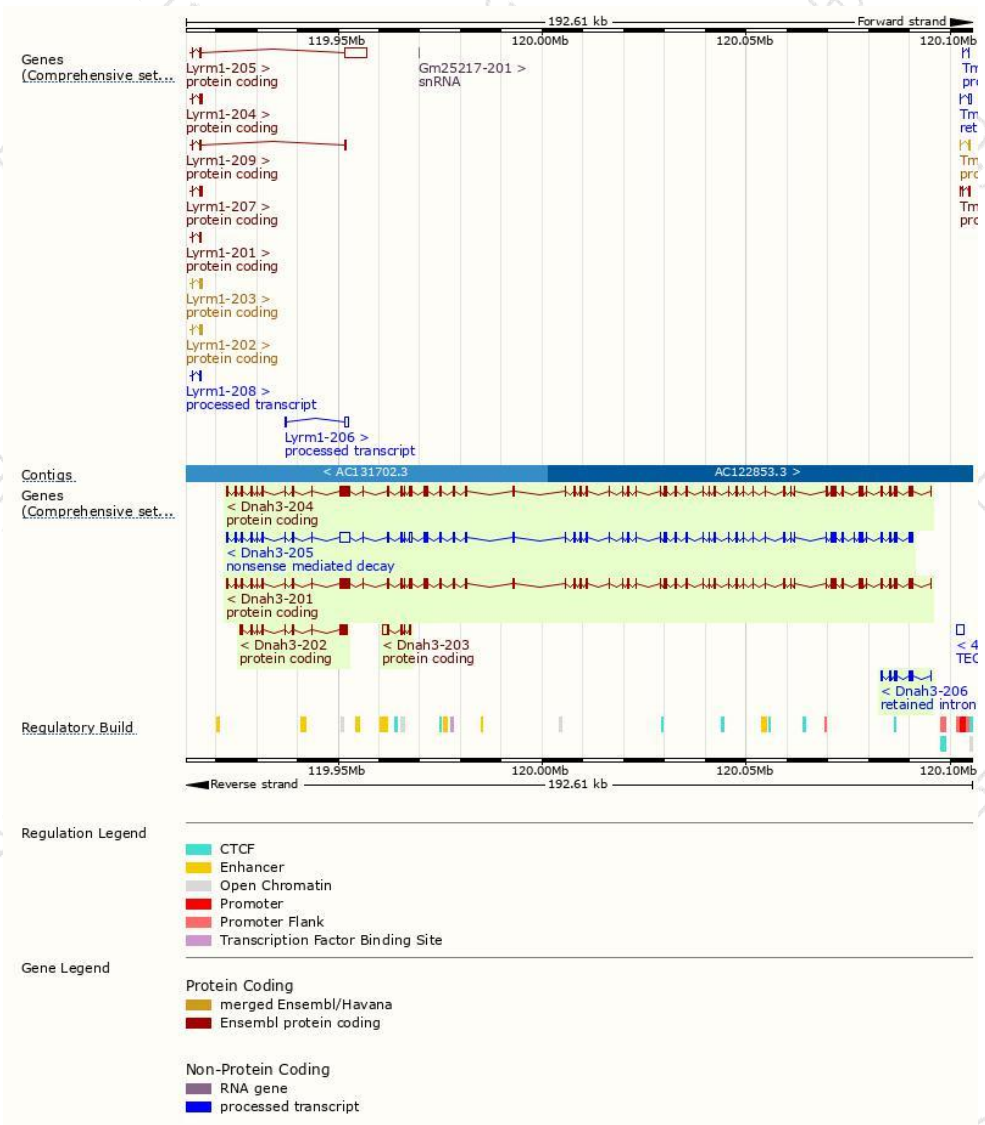
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dnah3-204	ENSMUST00000209154.2	12265	4072aa	Protein coding	-	A0A140LIN9	TSL:5 GENCODE basic APPRIS ALT2
Dnah3-201	ENSMUST00000046993.3	12252	4083aa	Protein coding	-	Q8BW94	TSL:5 GENCODE basic APPRIS P5
Dnah3-202	ENSMUST00000208701.1	3247	978aa	Protein coding	-	A0A140LI99	CDS 5' incomplete TSL:1
Dnah3-203	ENSMUST00000208910.1	2205	351aa	Protein coding	-	A0A140LIB2	CDS 5' incomplete TSL:1
Dnah3-205	ENSMUST00000213149.1	12289	134aa	Nonsense mediated decay	-	A0A1L1SVE9	CDS 5' incomplete TSL:5
Dnah3-206	ENSMUST00000213993.1	1113	No protein	Retained intron	-	-	TSL:5

The strategy is based on the design of *Dnah3-201* transcript,the transcription is shown below:



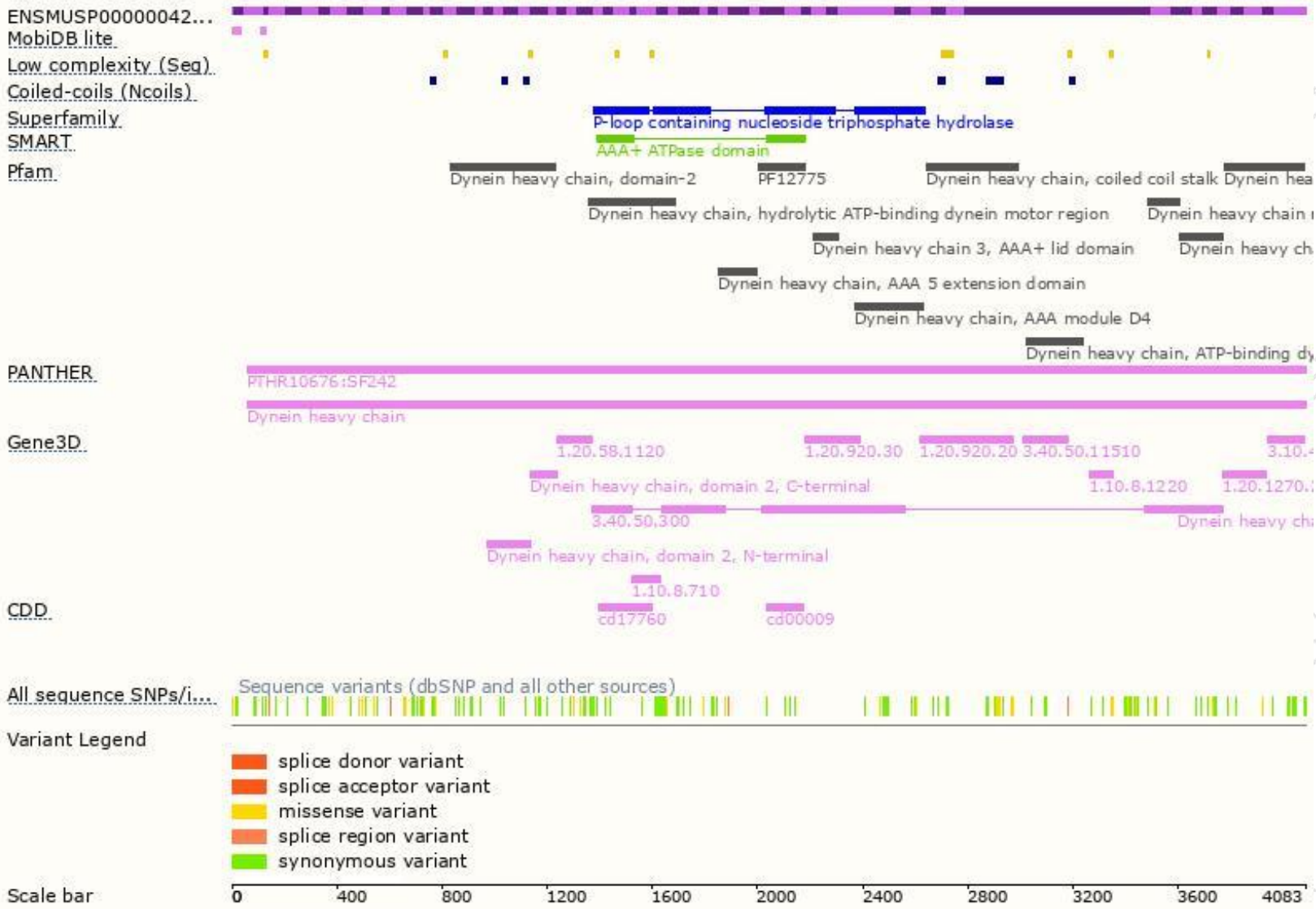
Genomic location distribution



Protein domain



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

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