

***Dnah17* Cas9-KO Strategy**

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Design Date: 2020-6-9

Project Overview

Project Name

Dnah17

Project type

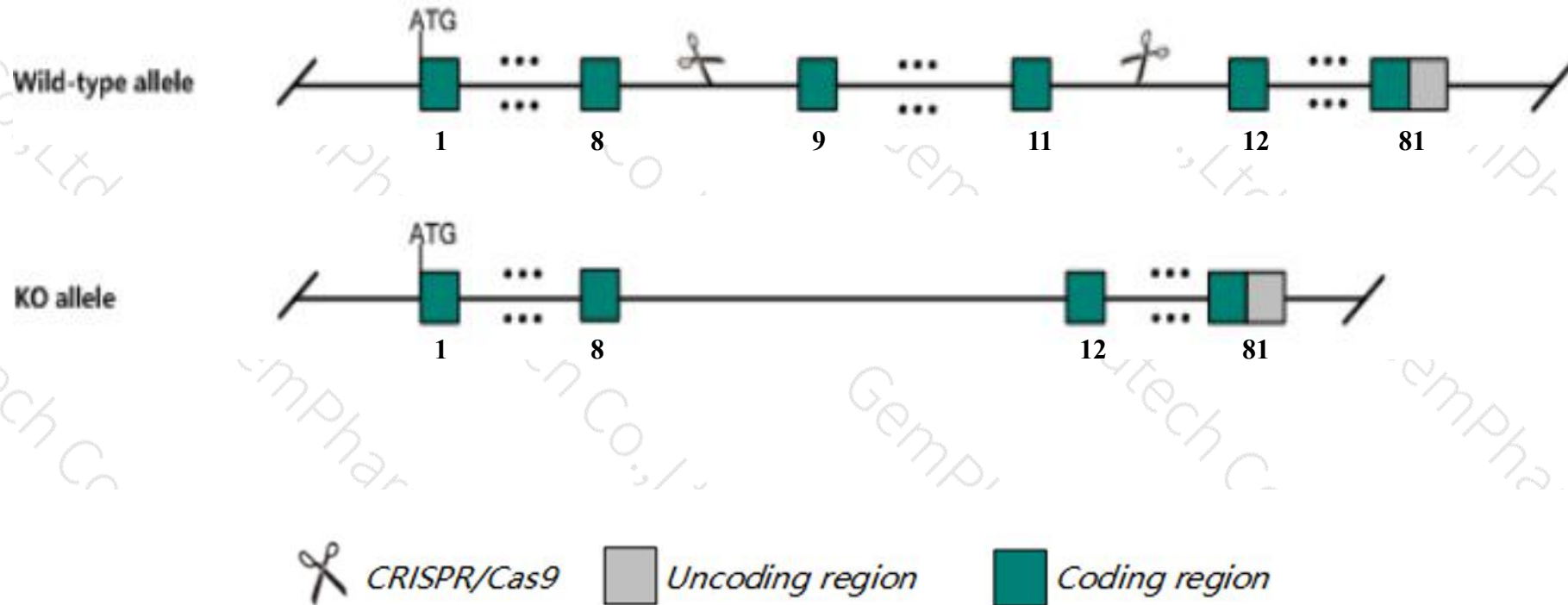
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnah17* gene. The schematic diagram is as follows:



- The *Dnah17* gene has 5 transcripts. According to the structure of *Dnah17* gene, exon9-exon11 of *Dnah17-202* (ENSMUST00000084803.11) transcript is recommended as the knockout region. The region contains 551bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dnah17* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Dnah17* 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)

Dnah17 dynein, axonemal, heavy chain 17 [Mus musculus (house mouse)]

Gene ID: 69926, updated on 13-Mar-2020

Summary



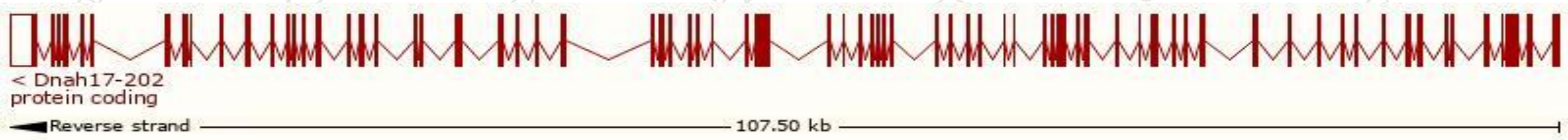
Official Symbol	Dnah17 provided by MGI
Official Full Name	dynein, axonemal, heavy chain 17 provided by MGI
Primary source	MGI:MGI:1917176
See related	Ensembl:ENSMUSG00000033987
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2810003K23Rik, Dnahc17, Dnahcl1, Gm1178, mKIAA3028
Expression	Biased expression in testis adult (RPKM 14.0), thymus adult (RPKM 1.2) and 1 other tissue See more
Orthologs	human all

Transcript information (Ensembl)

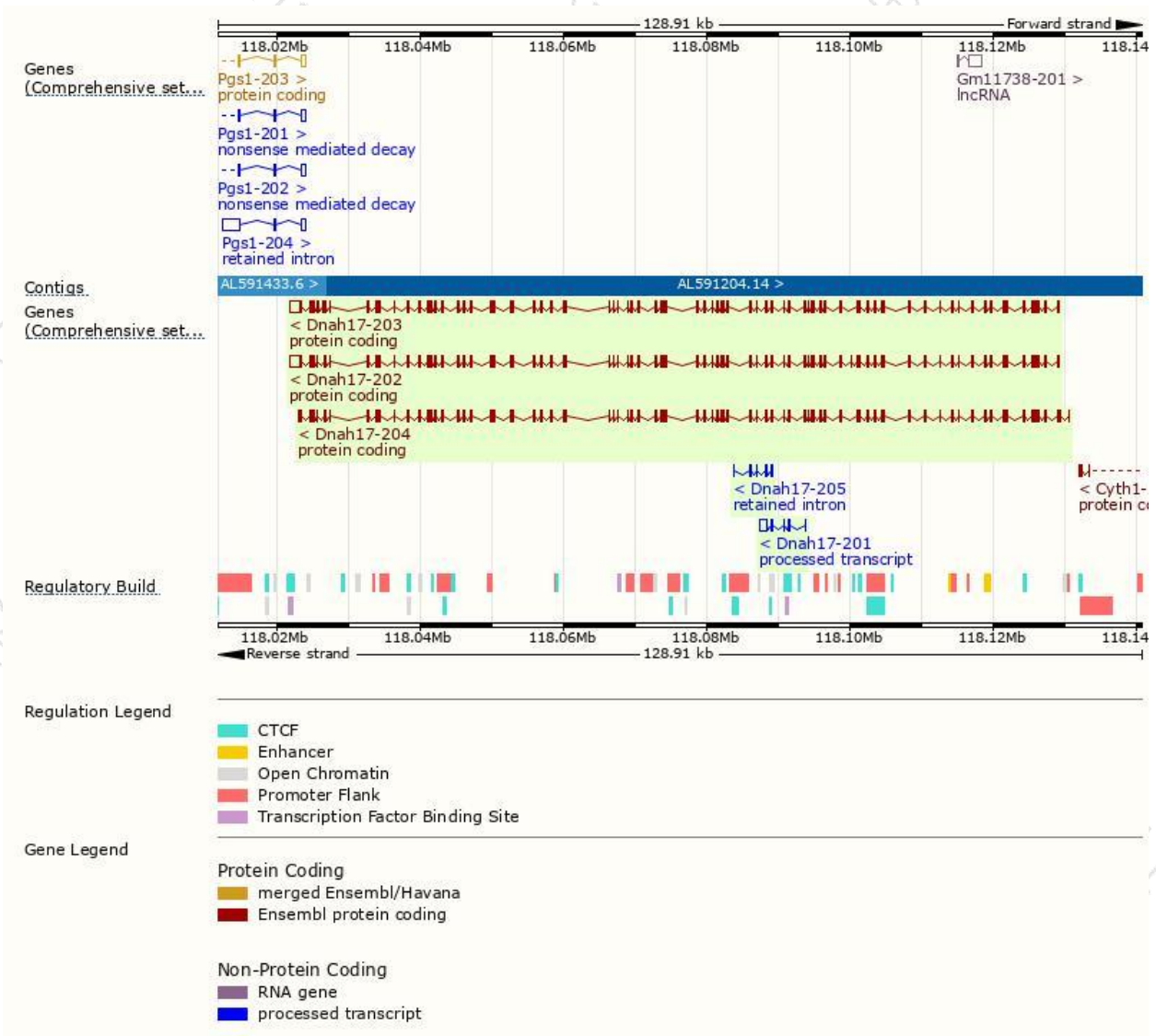
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dnah17-202	ENSMUST00000084803.11	14889	4453aa	Protein coding	CCDS48994	E9Q7P0	TSL:5 GENCODE basic APPRIS P2
Dnah17-203	ENSMUST00000106308.9	14973	4481aa	Protein coding	-	K3W4R0	TSL:5 GENCODE basic APPRIS ALT2
Dnah17-204	ENSMUST00000132685.8	13612	4459aa	Protein coding	-	A2A520	TSL:5 GENCODE basic APPRIS ALT2
Dnah17-201	ENSMUST00000018719.3	1361	No protein	Processed transcript	-	-	TSL:1
Dnah17-205	ENSMUST000000217584.1	762	No protein	Retained intron	-	-	TSL:3

The strategy is based on the design of *Dnah17-202* transcript,the transcription is shown below:



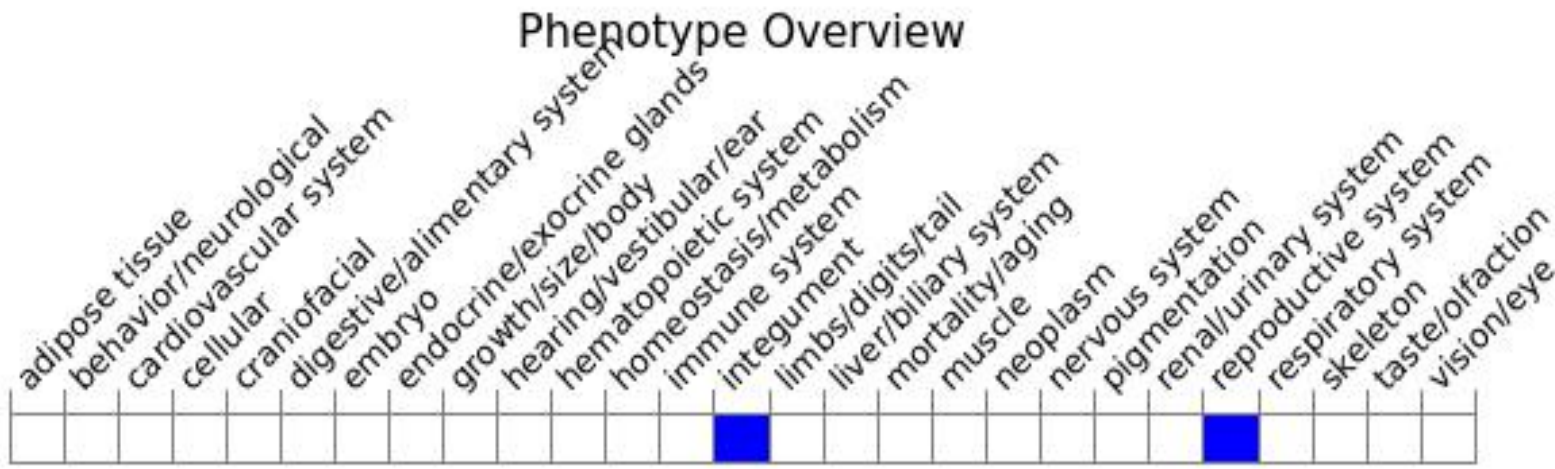
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

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