

Dynlt3 Cas9-KO Strategy

Designer: Xueting Zhang

Reviewer: Yanhua Shen

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Project Overview

Project Name

Dynlt3

Project type

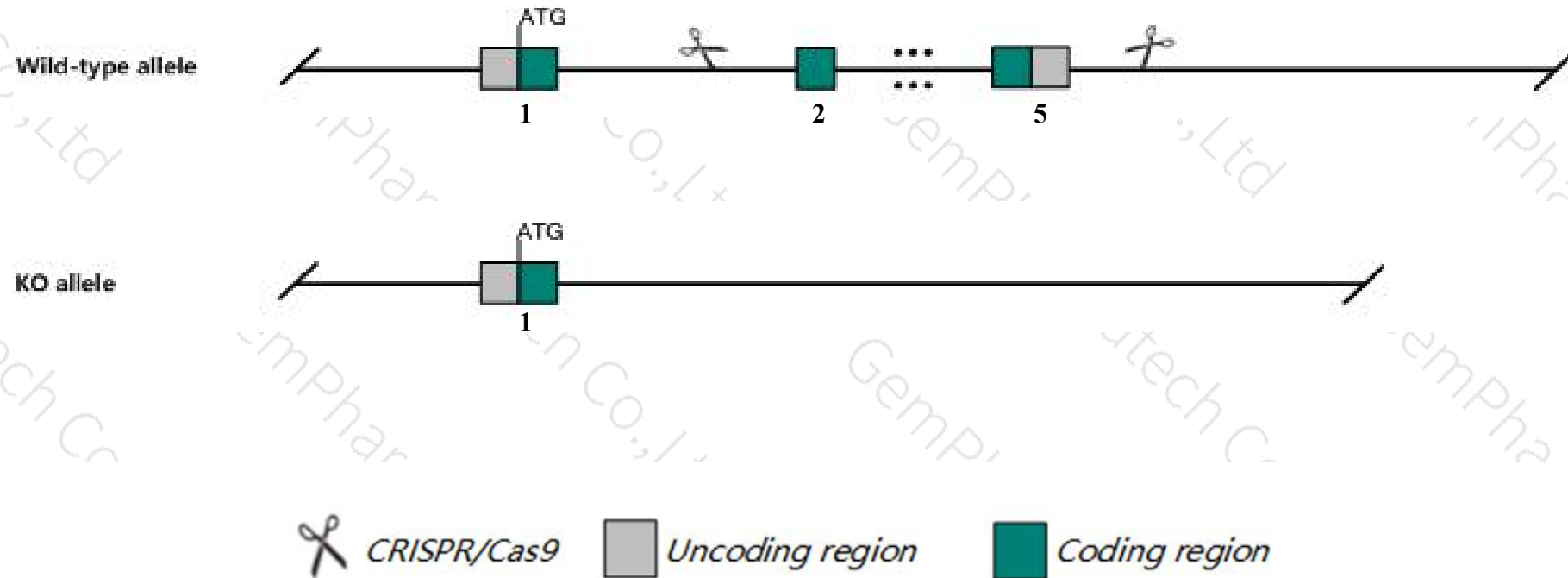
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dynlt3* gene. The schematic diagram is as follows:



- The *Dynlt3* gene has 4 transcripts. According to the structure of *Dynlt3* gene, exon2-exon5 of *Dynlt3-201* (ENSMUST00000033519.2) transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dynlt3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Dynlt3* 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)

Dynlt3 dynein light chain Tctex-type 3 [*Mus musculus* (house mouse)]

Gene ID: 67117, updated on 12-Aug-2019

Summary

Official Symbol Dynlt3 provided by [MGI](#)
Official Full Name dynein light chain Tctex-type 3 provided by [MGI](#)
Primary source [MGI:MGI:1914367](#)
See related [Ensembl:ENSMUSG00000031176](#)
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 Tcte1l; AU042796; 2310075M16Rik
Expression Broad expression in bladder adult (RPKM 53.0), cerebellum adult (RPKM 34.0) and 20 other tissues [See more](#)
Orthologs [human](#) [all](#)

Genomic context

Location: X; X A1.1

See Dynlt3 in [Genome Data Viewer](#)

Exon count: 5

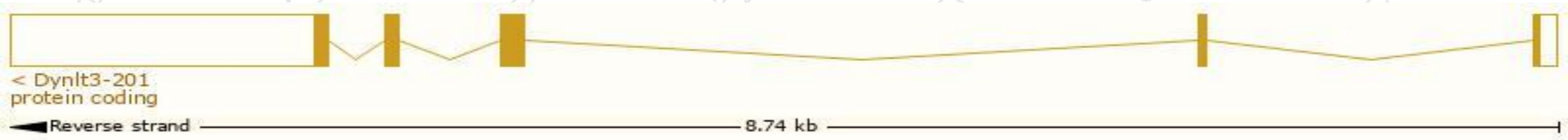
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	X	NC_000086.7 (9654270..9662983, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	X	NC_000086.6 (9231396..9240109, complement)

Transcript information (Ensembl)

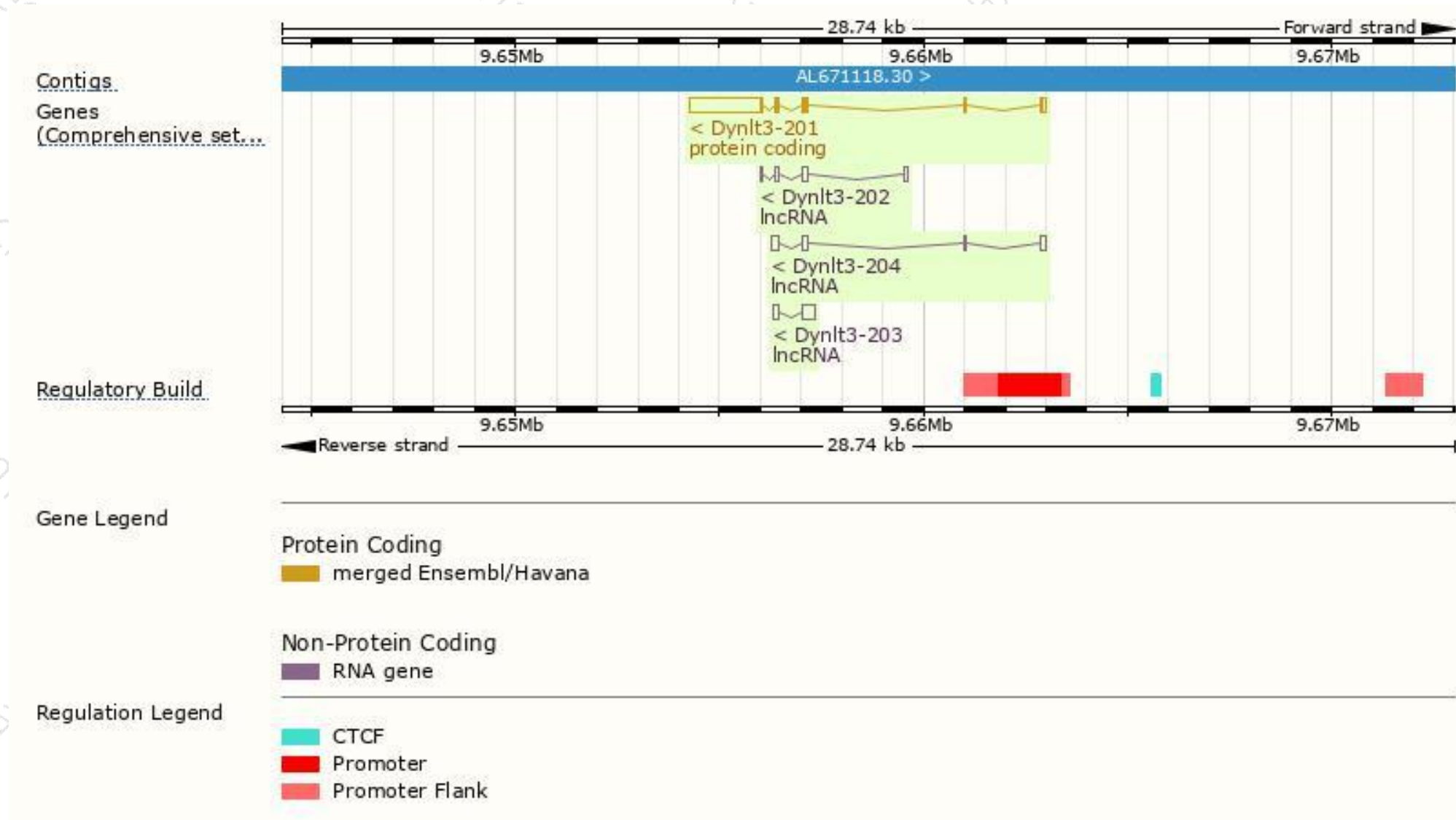
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dynlt3-201	ENSMUST00000033519.2	2176	116aa	Protein coding	CCDS30011	P56387 Q542J7	TSL:1 GENCODE basic APPRIS P1
Dynlt3-204	ENSMUST00000154091.1	483	No protein	lncRNA	-	-	TSL:2
Dynlt3-203	ENSMUST00000140019.1	437	No protein	lncRNA	-	-	TSL:3
Dynlt3-202	ENSMUST00000125030.7	360	No protein	lncRNA	-	-	TSL:3

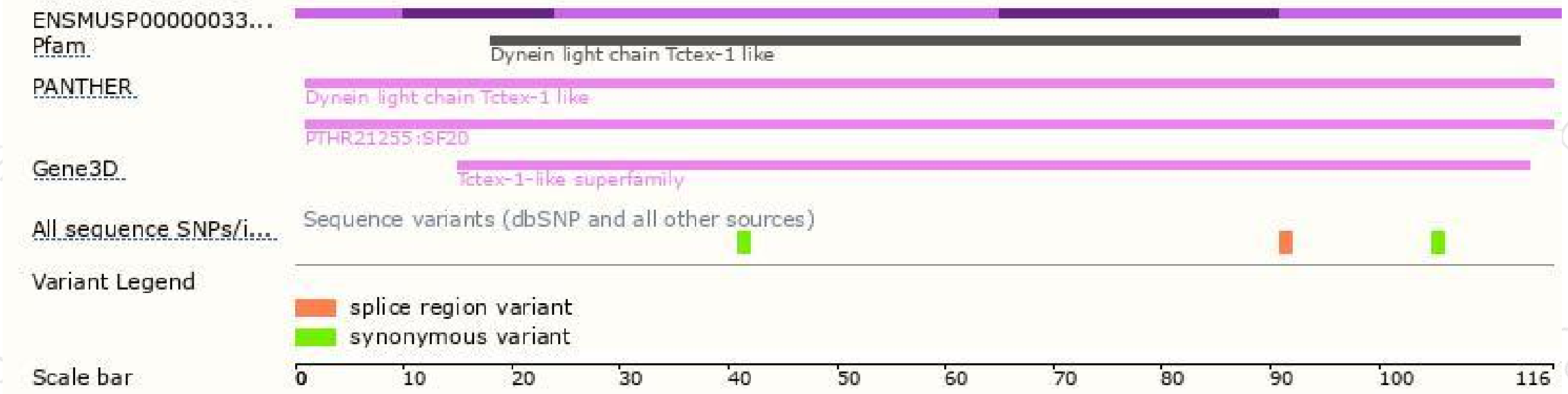
The strategy is based on the design of *Dynlt3-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

