

Polr3b Cas9-KO Strategy

Designer: Huimin Su

Project Overview

Project Name

Polr3b

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Polr3b* gene. The schematic diagram is as follows:



- The *Polr3b* gene has 4 transcripts. According to the structure of *Polr3b* gene, exon5-exon7 of *Polr3b-201* (ENSMUST00000077175.6) transcript is recommended as the knockout region. The region contains 269bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Polr3b* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Polr3b* gene is located on the Chr10. 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)

Polr3b polymerase (RNA) III (DNA directed) polypeptide B [Mus musculus (house mouse)]

Gene ID: 70428, updated on 31-Jan-2019

Summary



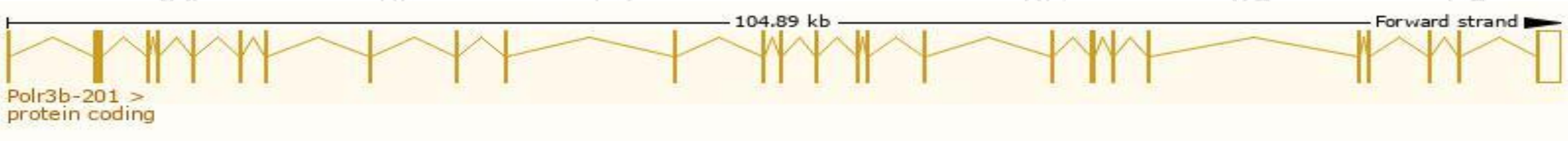
Official Symbol	Polr3b provided by MGI
Official Full Name	polymerase (RNA) III (DNA directed) polypeptide B provided by MGI
Primary source	MGI:MGI:1917678
See related	Ensembl:ENSMUSG00000034453
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2700078H01Rik, A330032P03Rik, C128, C85372, RPC2
Expression	Ubiquitous expression in CNS E11.5 (RPKM 5.5), CNS E14 (RPKM 4.2) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

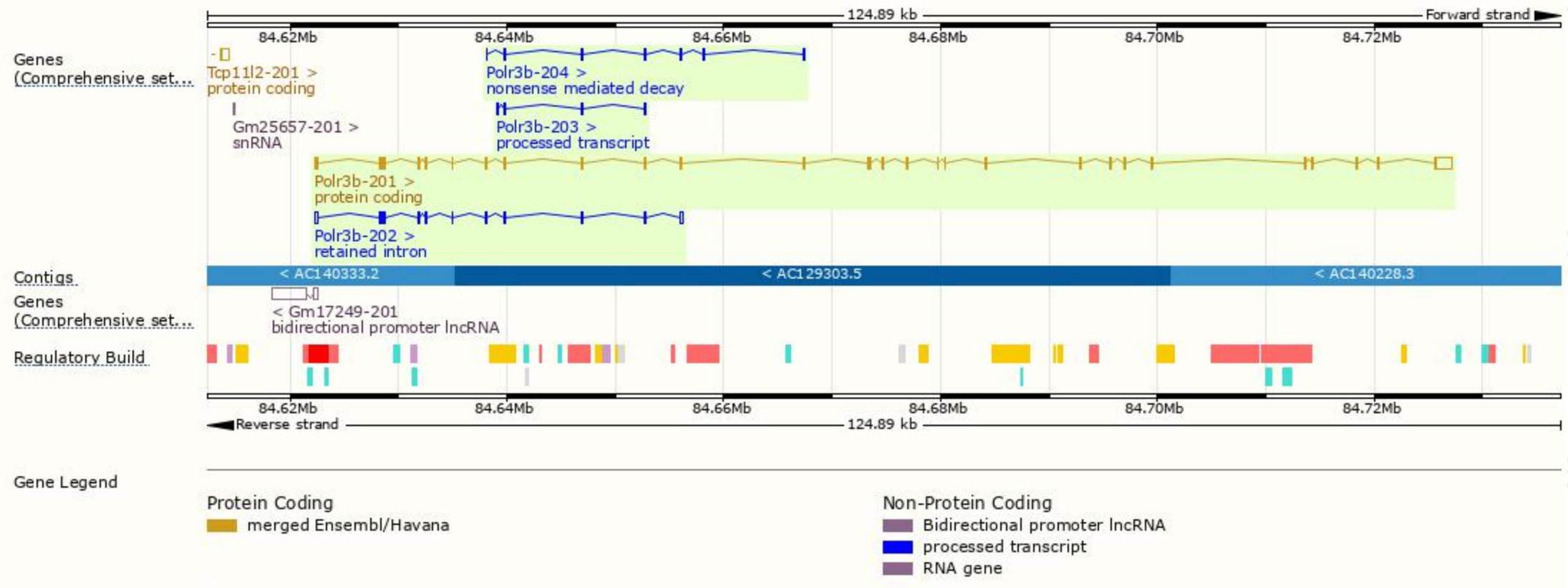
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Polr3b-201	ENSMUST00000077175.6	4975	1133aa	Protein coding	CCDS24081	P59470	TSL:1 GENCODE basic APPRIS P1
Polr3b-204	ENSMUST00000215853.1	787	179aa	Nonsense mediated decay	-	A0A1L1SSC8	CDS 5' incomplete TSL:3
Polr3b-203	ENSMUST00000213543.1	428	No protein	Processed transcript	-	-	TSL:2
Polr3b-202	ENSMUST00000213263.1	1387	No protein	Retained intron	-	-	TSL:1

The strategy is based on the design of *Polr3b-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

