

Polr2d Cas9-KO Strategy

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Project Overview

Project Name

Polr2d

Project type

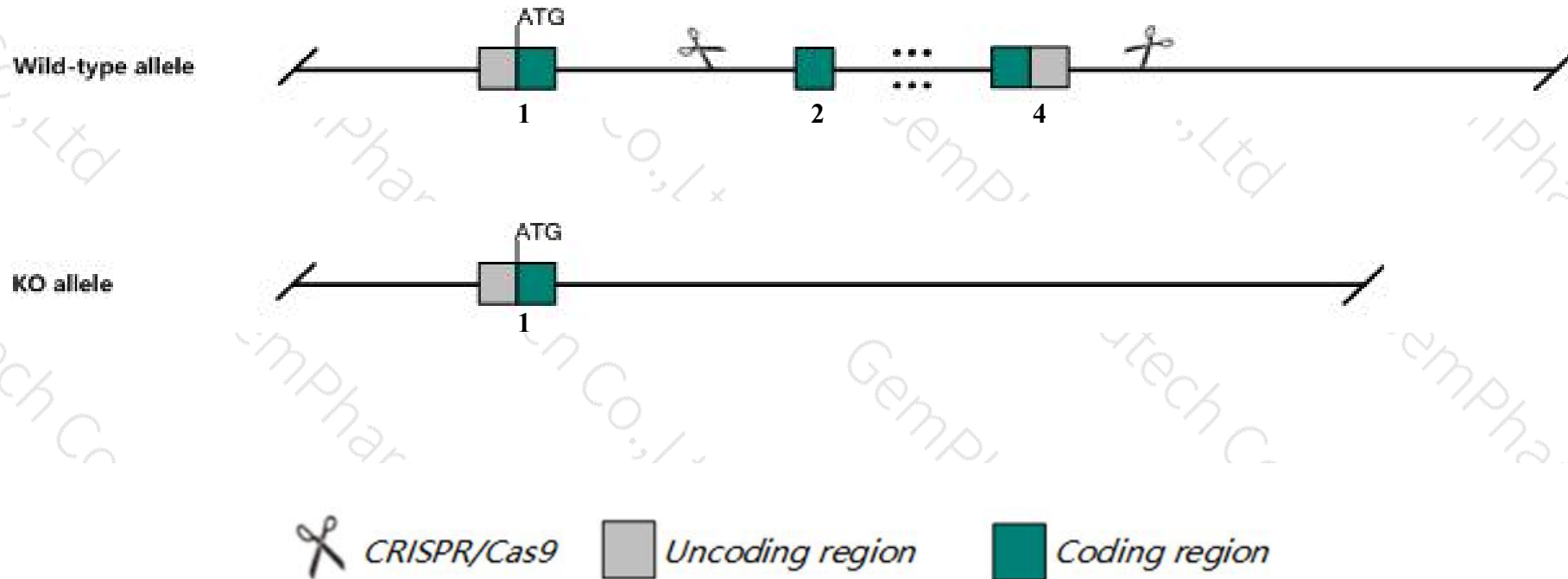
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Polr2d* gene. The schematic diagram is as follows:



- The *Polr2d* gene has 2 transcripts. According to the structure of *Polr2d* gene, exon2-exon4 of *Polr2d-201* (ENSMUST00000025106.4) transcript is recommended as the knockout region. The region contains 356bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Polr2d* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Polr2d* gene is located on the Chr18. 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)

Polr2d polymerase (RNA) II (DNA directed) polypeptide D [Mus musculus (house mouse)]

Gene ID: 69241, updated on 31-Jan-2019

Summary



Official Symbol	Polr2d provided by MGI
Official Full Name	polymerase (RNA) II (DNA directed) polypeptide D provided by MGI
Primary source	MGI:MGI:1916491
See related	Ensembl:ENSMUSG000000024258
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	2310002G05Rik, 2610028L19Rik, HSRBP4, RBP4
Expression	Ubiquitous expression in CNS E11.5 (RPKM 39.1), CNS E14 (RPKM 31.4) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

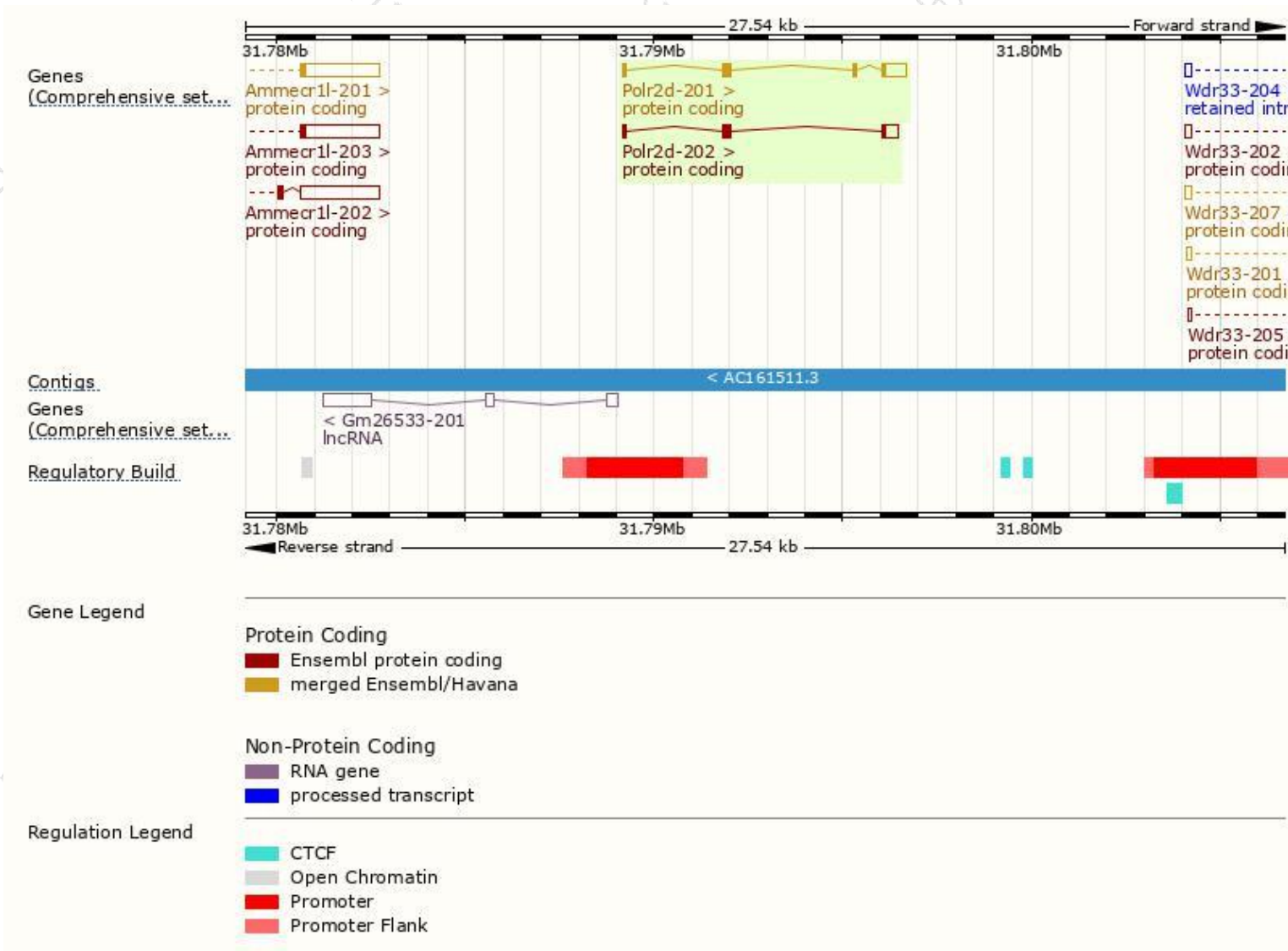
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Polr2d-201	ENSMUST00000025106.4	1015	142aa	Protein coding	CCDS29111	Q9D7M8	TSL:1 GENCODE basic APPRIS P1
Polr2d-202	ENSMUST00000234146.1	706	110aa	Protein coding	-	-	GENCODE basic

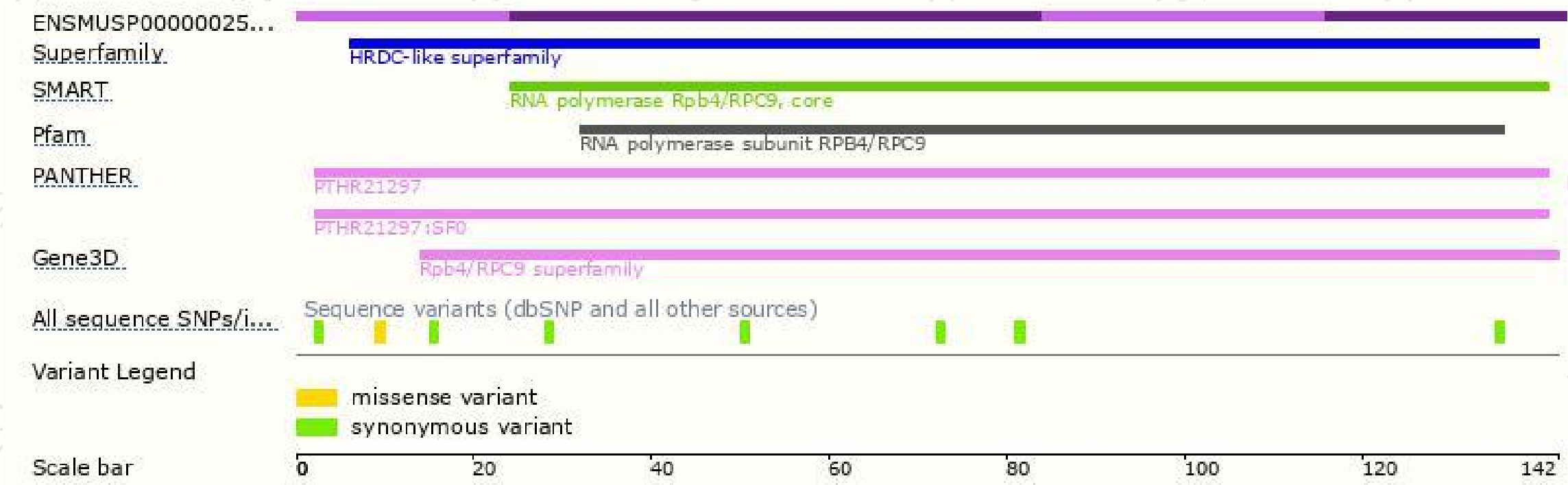
The strategy is based on the design of *Polr2d-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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