

***Poldip3* Cas9-KO Strategy**

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Project Overview

Project Name

Poldip3

Project type

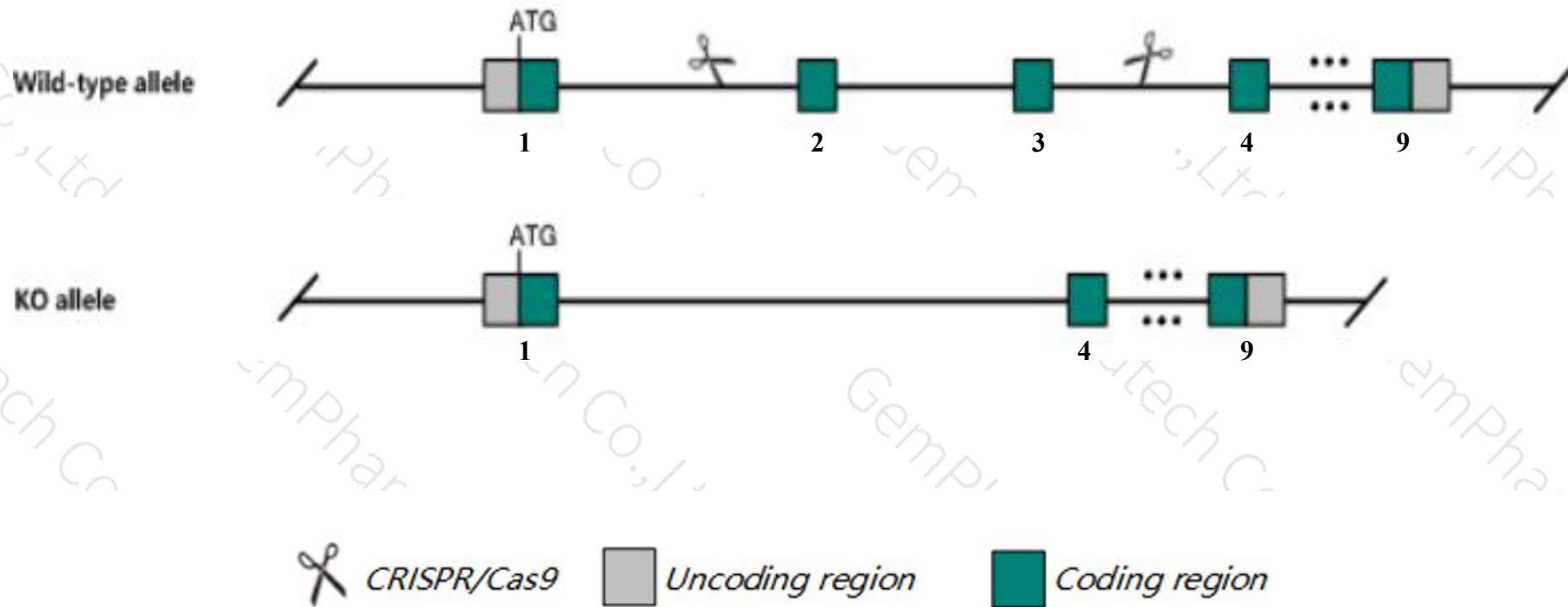
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Poldip3* gene. The schematic diagram is as follows:



- The *Poldip3* gene has 6 transcripts. According to the structure of *Poldip3* gene, exon2-exon3 of *Poldip3*-201(ENSMUST00000058793.13) transcript is recommended as the knockout region. The region contains 478bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Poldip3* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The *Poldip3* gene is located on the Chr15. 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)

Poldip3 polymerase (DNA-directed), delta interacting protein 3 [Mus musculus (house mouse)]

Gene ID: 73826, updated on 13-Mar-2020

Summary



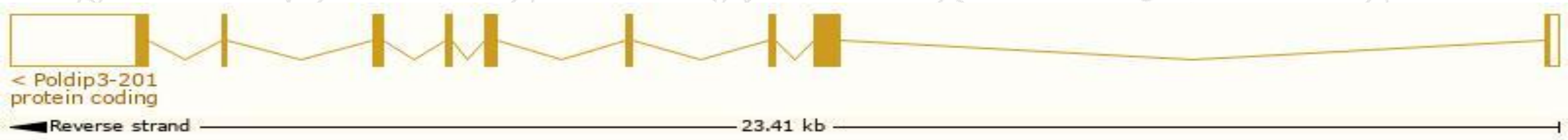
Official Symbol	Poldip3 provided by MGI
Official Full Name	polymerase (DNA-directed), delta interacting protein 3 provided by MGI
Primary source	MGI:MGI:1921076
See related	Ensembl:ENSMUSG00000041815
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110008P04Rik, AA408269, AL022852, C77954, PDIP46, SKAR, mKIAA1649
Expression	Ubiquitous expression in ovary adult (RPKM 39.9), thymus adult (RPKM 34.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

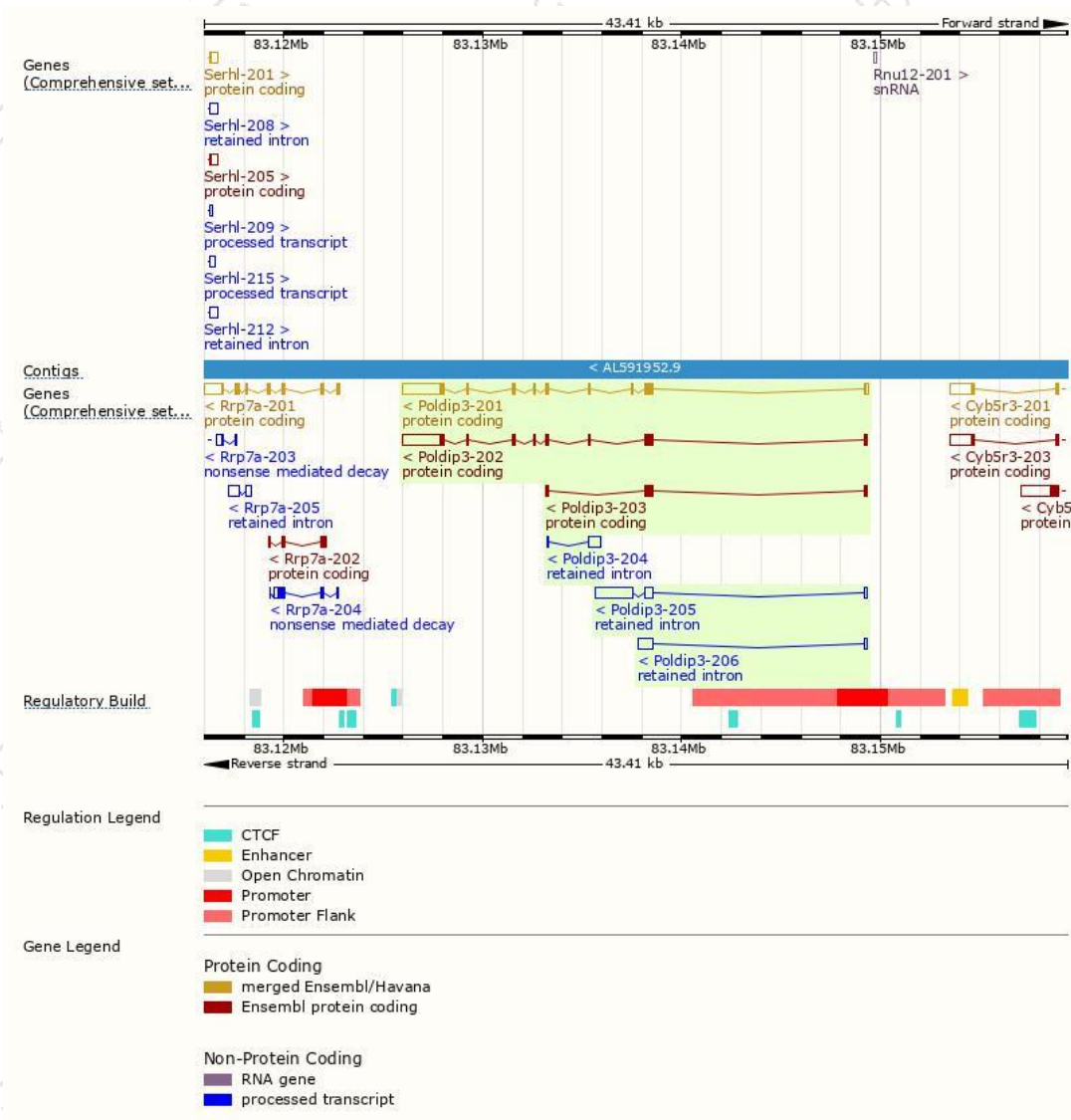
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Poldip3-201	ENSMUST00000058793.13	3299	420aa	Protein coding	CCDS27697	Q8BG81	TSL:1 GENCODE basic APPRIS P3
Poldip3-202	ENSMUST00000100375.10	3157	391aa	Protein coding	CCDS84183	Q3UDD3	TSL:1 GENCODE basic APPRIS ALT1
Poldip3-203	ENSMUST00000129372.1	655	202aa	Protein coding	-	F6VR84	CDS 3' incomplete TSL:2
Poldip3-205	ENSMUST00000149802.1	2393	No protein	Retained intron	-	-	TSL:1
Poldip3-206	ENSMUST00000150926.1	837	No protein	Retained intron	-	-	TSL:2
Poldip3-204	ENSMUST00000135013.1	680	No protein	Retained intron	-	-	TSL:5

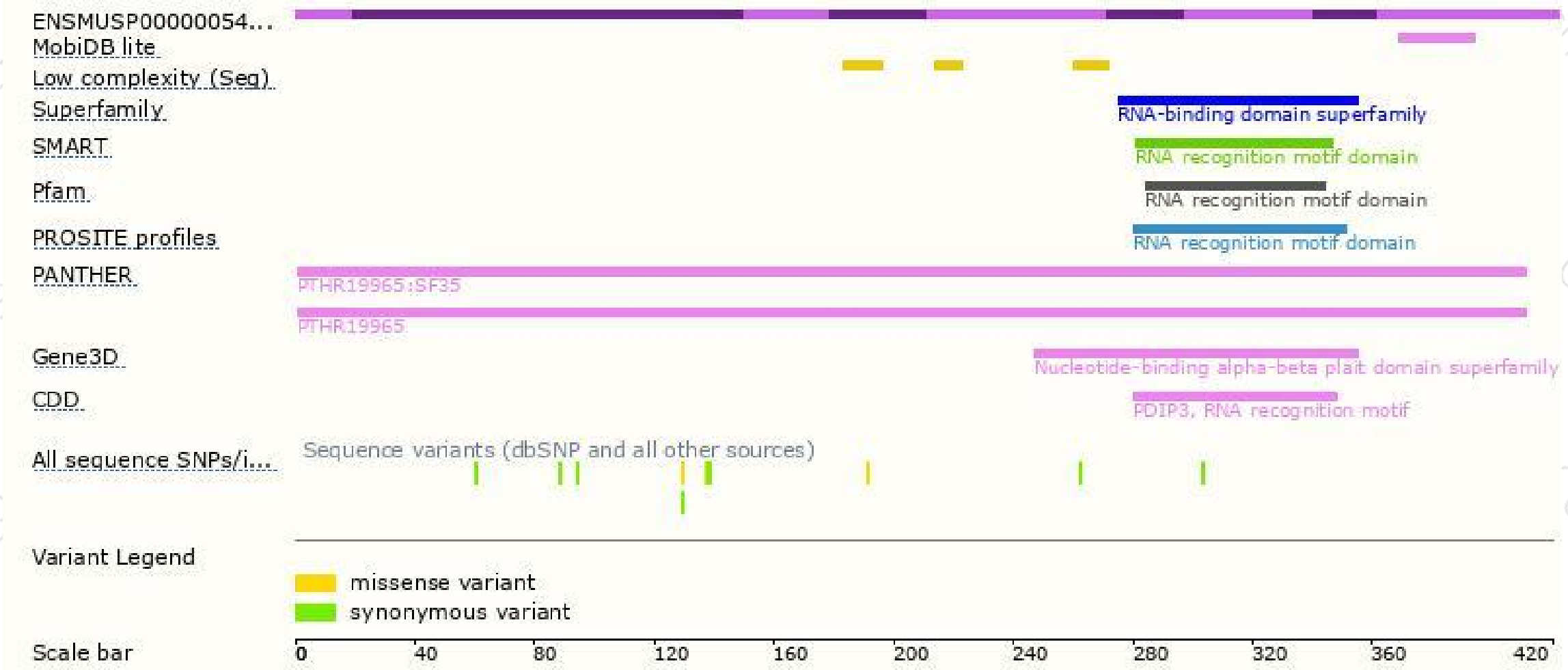
The strategy is based on the design of *Poldip3-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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