

***Rab22a* Cas9-KO Strategy**

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Project Overview

Project Name

Rab22a

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rab22a* gene. The schematic diagram is as follows:



- The *Rab22a* gene has 3 transcripts. According to the structure of *Rab22a* gene, exon3-exon6 of *Rab22a-201* (ENSMUST00000029024.9) transcript is recommended as the knockout region. The region contains 371bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rab22a* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Rab22a* gene is located on the Chr2. 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)

Rab22a RAB22A, member RAS oncogene family [Mus musculus (house mouse)]

Gene ID: 19334, updated on 31-Jan-2019

Summary



Official Symbol	Rab22a provided by MGI
Official Full Name	RAB22A, member RAS oncogene family provided by MGI
Primary source	MGI:MGI:105072
See related	Ensembl:ENSMUSG00000027519
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	3732413A17Rik, AI662177, AW319644, AW550514, E130120E14Rik, Rab22
Expression	Ubiquitous expression in colon adult (RPKM 24.0), testis adult (RPKM 24.0) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

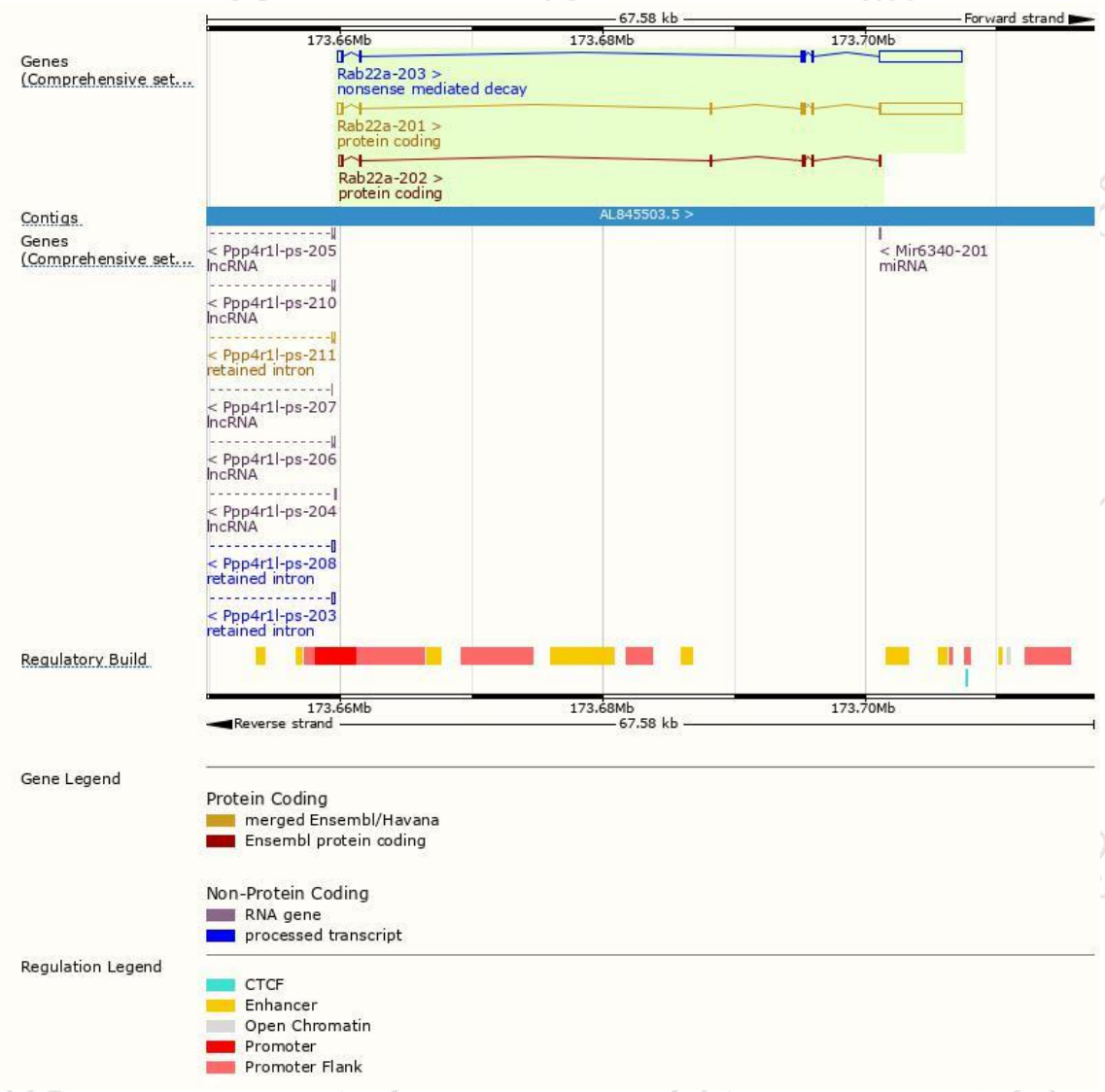
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rab22a-201	ENSMUST00000029024.9	7155	194aa	Protein coding	CCDS38352	P35285 Q0PD34	TSL:1 GENCODE basic APPRIS P1
Rab22a-202	ENSMUST00000109110.3	849	187aa	Protein coding	-	A2ARZ7	TSL:5 GENCODE basic
Rab22a-203	ENSMUST00000142820.7	7045	68aa	Nonsense mediated decay	-	D6RFT6	TSL:1

The strategy is based on the design of *Rab22a-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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