

***Rab3d* Cas9-KO Strategy**

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Design Date:

2020-1-22

Project Overview

Project Name

Rab3d

Project type

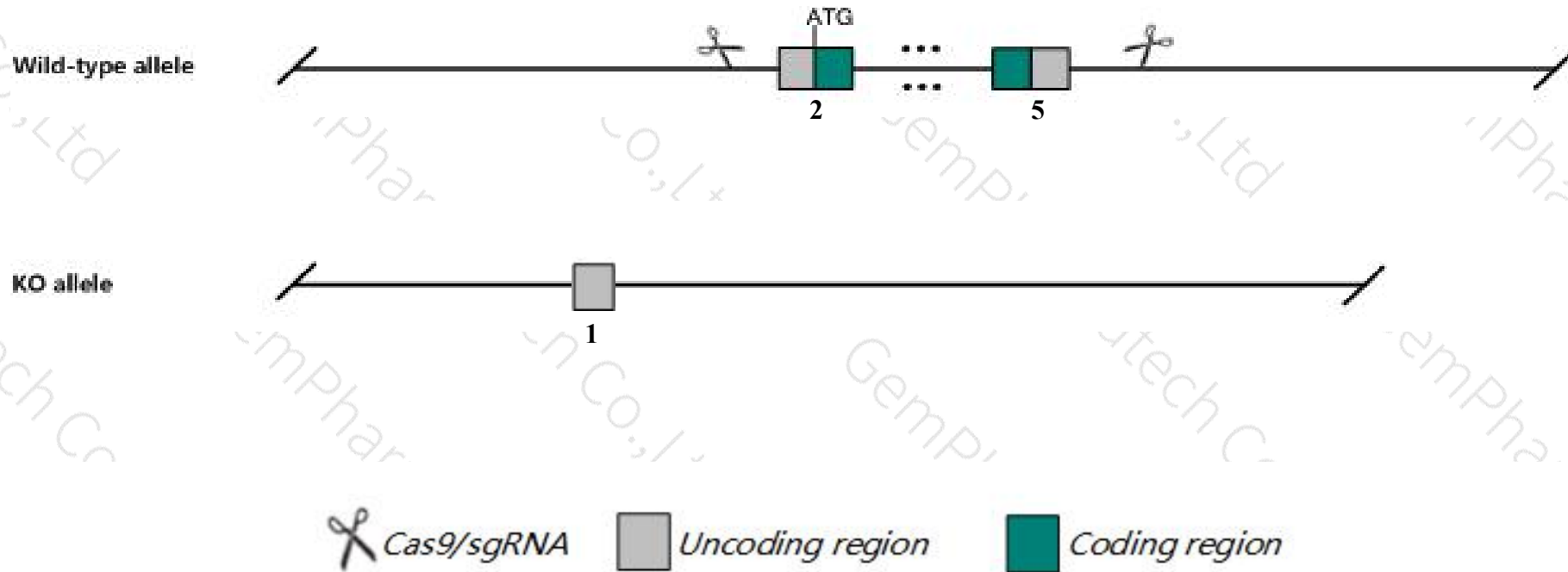
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rab3d* gene. The schematic diagram is as follows:



- The *Rab3d* gene has 5 transcripts. According to the structure of *Rab3d* gene, exon2-exon5 of *Rab3d-203* (ENSMUST00000122211.7) transcript is recommended as the knockout region. The region contains all 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 *Rab3d* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for disruptions in this gene show no obvious phenotypic changes. Secretory granules in mast cells and some exocrine glands are double in volume however.
- The *Rab3d* gene is located on the Chr9. 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)

Rab3d RAB3D, member RAS oncogene family [Mus musculus (house mouse)]

Gene ID: 19340, updated on 24-Mar-2019

Summary



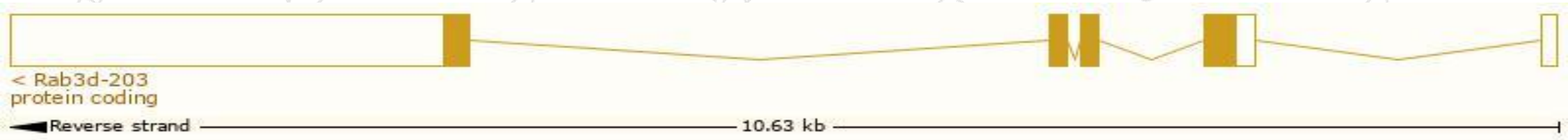
Official Symbol	Rab3d provided by MGI
Official Full Name	RAB3D, member RAS oncogene family provided by MGI
Primary source	MGI:MGI:97844
See related	Ensembl:ENSMUSG00000019066
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	C130057E11Rik
Expression	Broad expression in colon adult (RPKM 51.1), stomach adult (RPKM 49.7) and 23 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

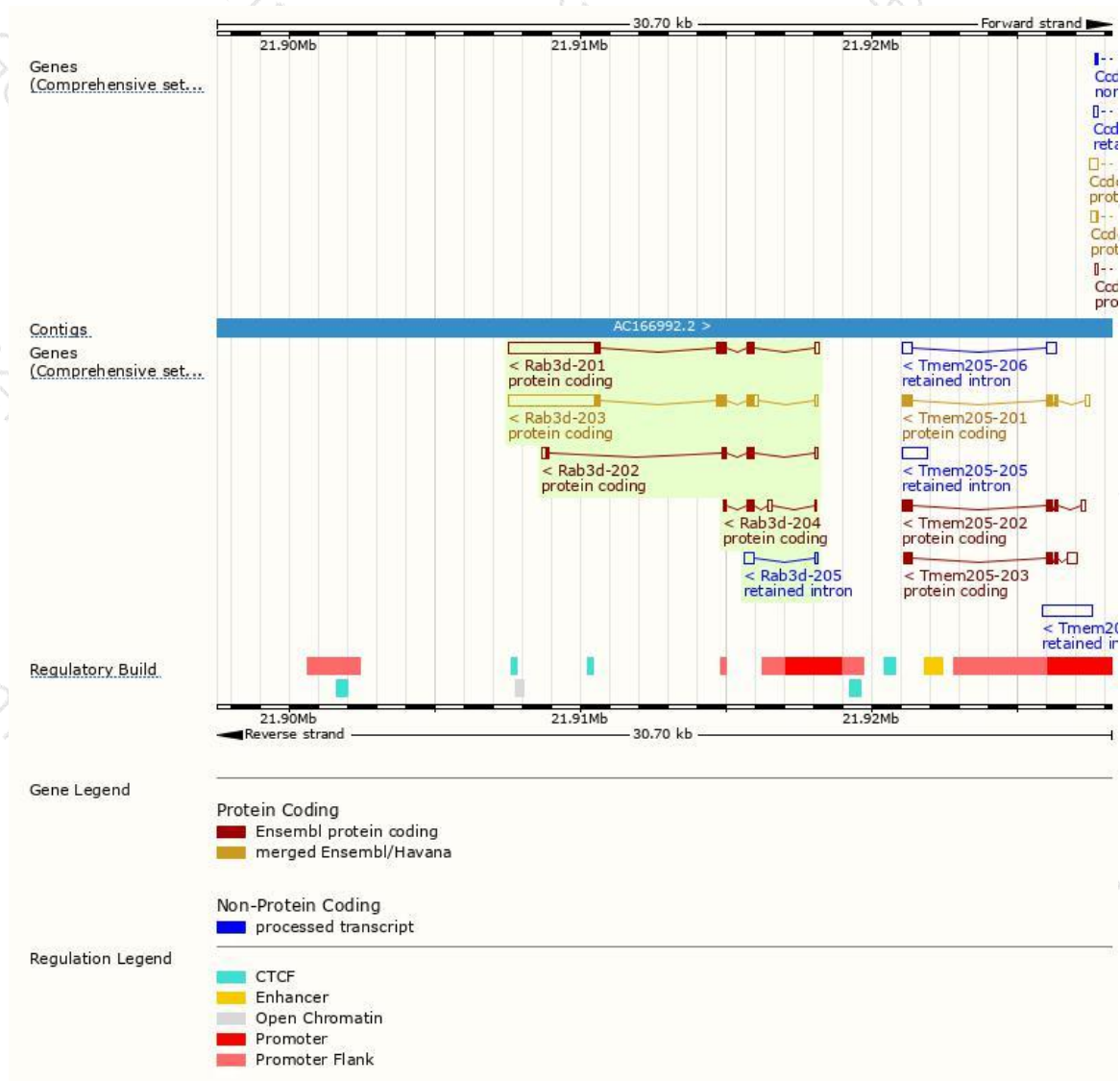
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rab3d-203	ENSMUST00000122211.7	3886	219aa	Protein coding	CCDS22912	P35276 Q543Q4	TSL:1 GENCODE basic APPRIS P1
Rab3d-201	ENSMUST00000115351.9	3835	219aa	Protein coding	CCDS22912	P35276 Q543Q4	TSL:1 GENCODE basic APPRIS P1
Rab3d-202	ENSMUST00000119055.7	694	136aa	Protein coding	-	D3YW33	TSL:3 GENCODE basic
Rab3d-204	ENSMUST00000128442.1	545	106aa	Protein coding	-	D3YWL1	CDS 3' incomplete TSL:5
Rab3d-205	ENSMUST00000154019.1	429	No protein	Retained intron	-	-	TSL:2

The strategy is based on the design of *Rab3d-203* 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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