

Rab11fip3 Cas9-KO Strategy

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Reviewer:

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Design Date:

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Project Overview

Project Name

Rab11fip3

Project type

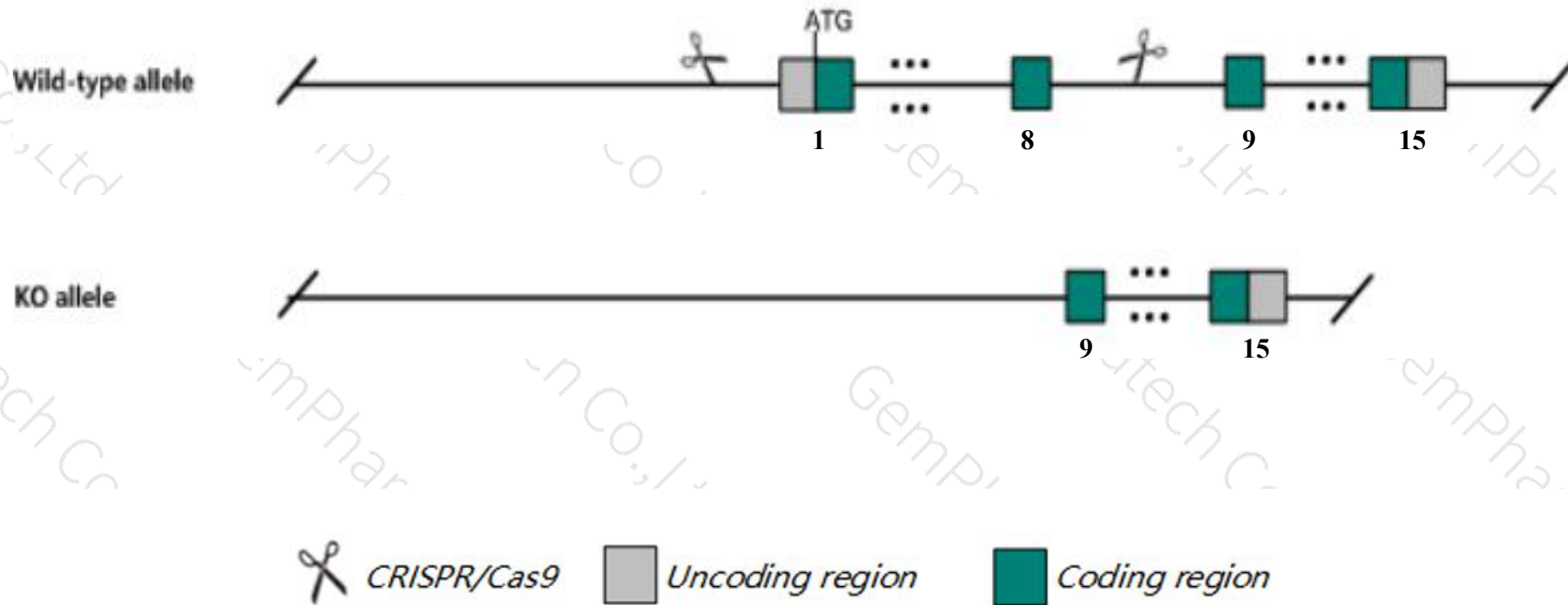
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Rab11fip3* gene. The schematic diagram is as follows:



- The *Rab11fip3* gene has 6 transcripts. According to the structure of *Rab11fip3* gene, exon1-exon8 of *Rab11fip3-203* (ENSMUST00000122103.8) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Rab11fip3* gene. The brief process is as follows: CRISPR/Cas9 sys

- The *Rab11fip3* gene is located on the Chr17. 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)

Rab11fip3 RAB11 family interacting protein 3 (class II) [*Mus musculus* (house mouse)]

Gene ID: 215445, updated on 13-Mar-2020

Summary

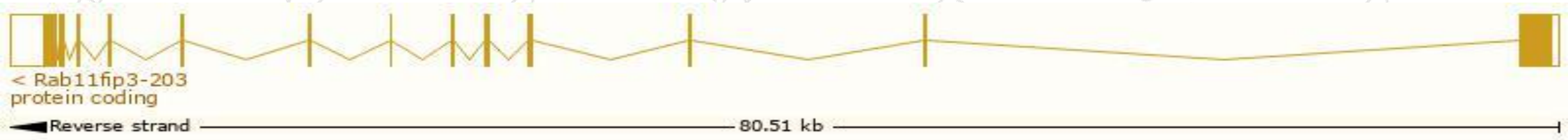
Official Symbol	Rab11fip3 provided by MGI
Official Full Name	RAB11 family interacting protein 3 (class II) provided by MGI
Primary source	MGI:MGI:2444431
See related	Ensembl:ENSMUSG000000037098
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Cart1; mKIAA0665; Rab11-FIP3; D030060O14Rik
Expression	Broad expression in kidney adult (RPKM 86.1), frontal lobe adult (RPKM 15.3) and 23 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

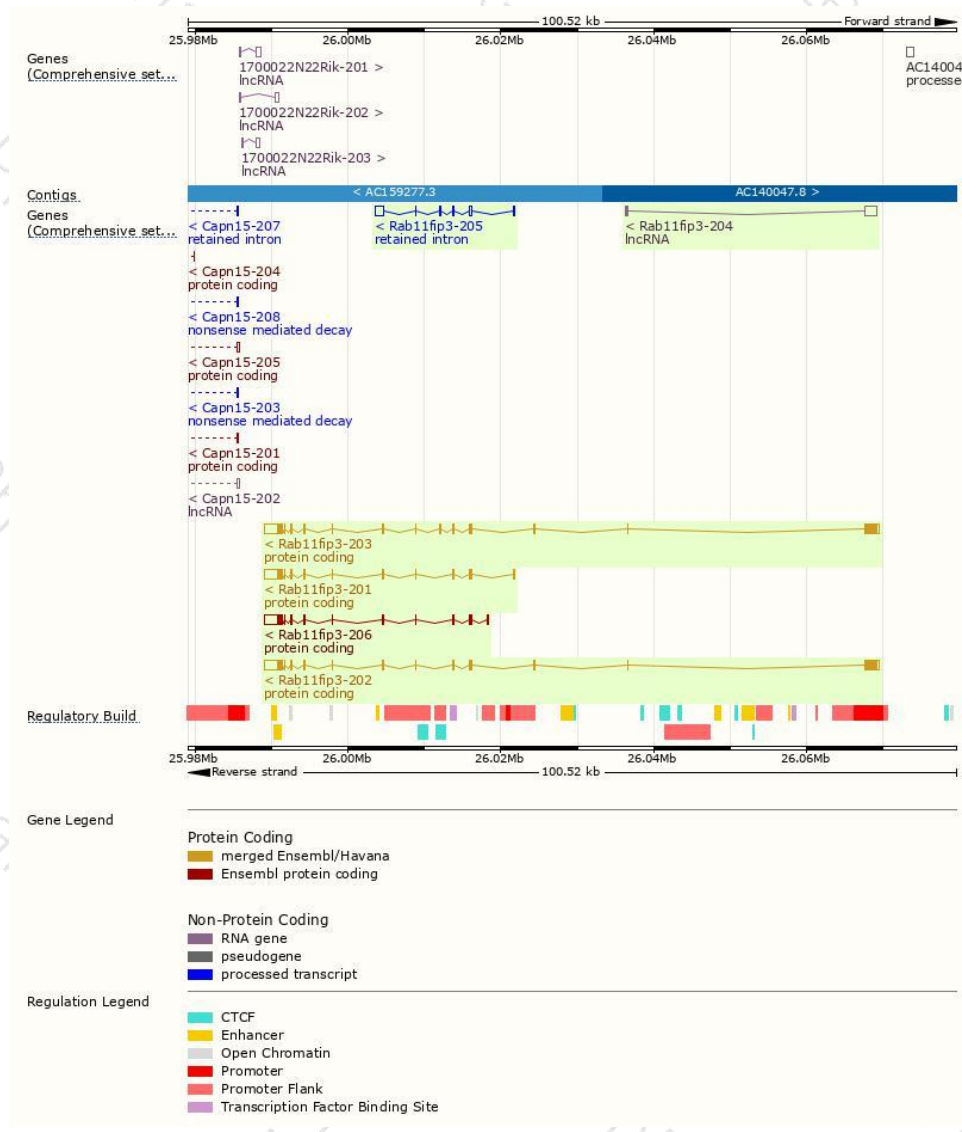
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Rab11fip3-203	ENSMUST00000122103.8	5383	1092aa	Protein coding	CCDS50041	Q8CHD8	TSL:1 GENCODE basic APPRIS P4
Rab11fip3-202	ENSMUST00000120691.8	5249	1047aa	Protein coding	CCDS50040	Q8CHD8	TSL:1 GENCODE basic APPRIS ALT2
Rab11fip3-206	ENSMUST00000148021.2	3333	444aa	Protein coding	CCDS50039	D3Z1T5 Q8CHD8	TSL:3 GENCODE basic
Rab11fip3-201	ENSMUST00000118828.7	3271	444aa	Protein coding	CCDS50039	Q8CHD8	TSL:1 GENCODE basic
Rab11fip3-204	ENSMUST00000126306.1	1976	No protein	Processed transcript	-	-	TSL:3
Rab11fip3-205	ENSMUST00000144587.1	1652	No protein	Retained intron	-	-	TSL:1

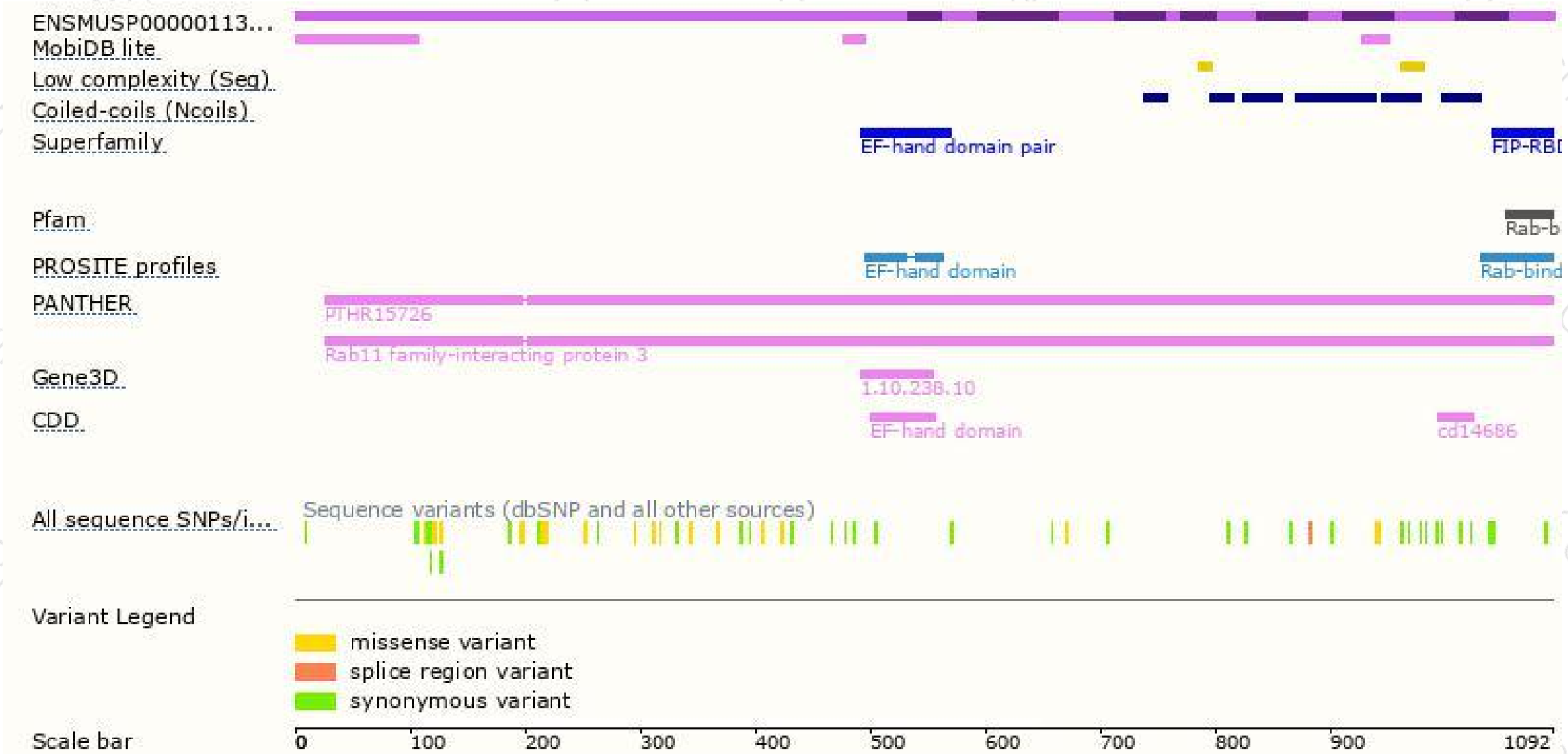
The strategy is based on the design of *Rab11fip3-203* transcript,The transcription is shown below



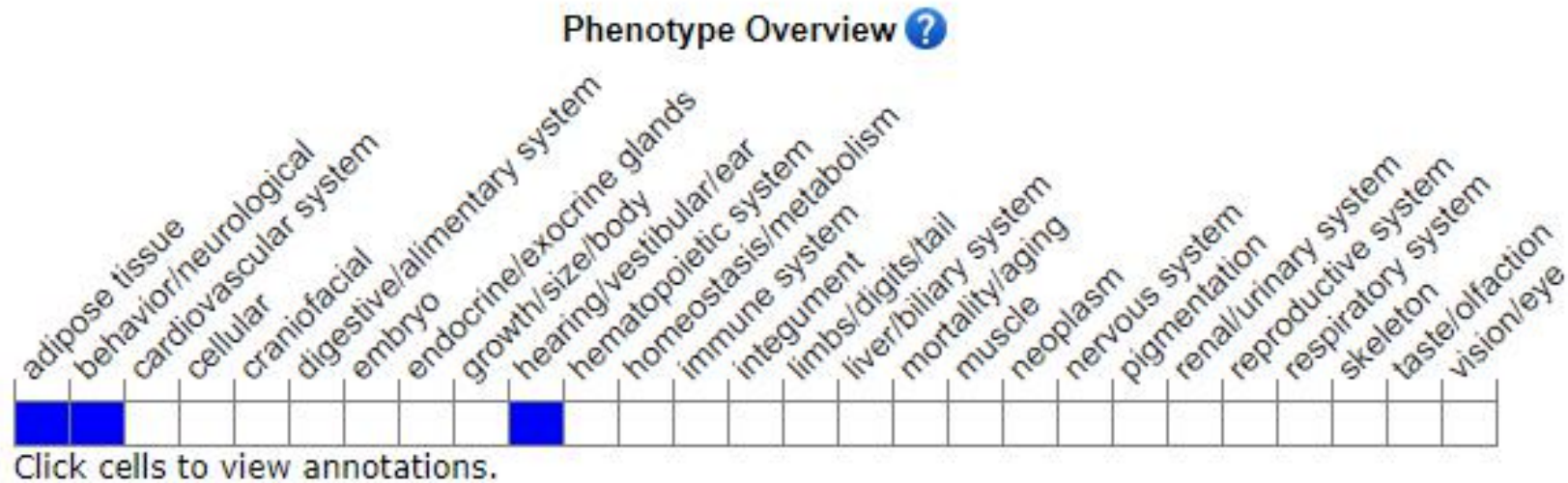
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

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