

Tagap Cas9-CKO Strategy

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Project Overview

Project Name

Tagap

Project type

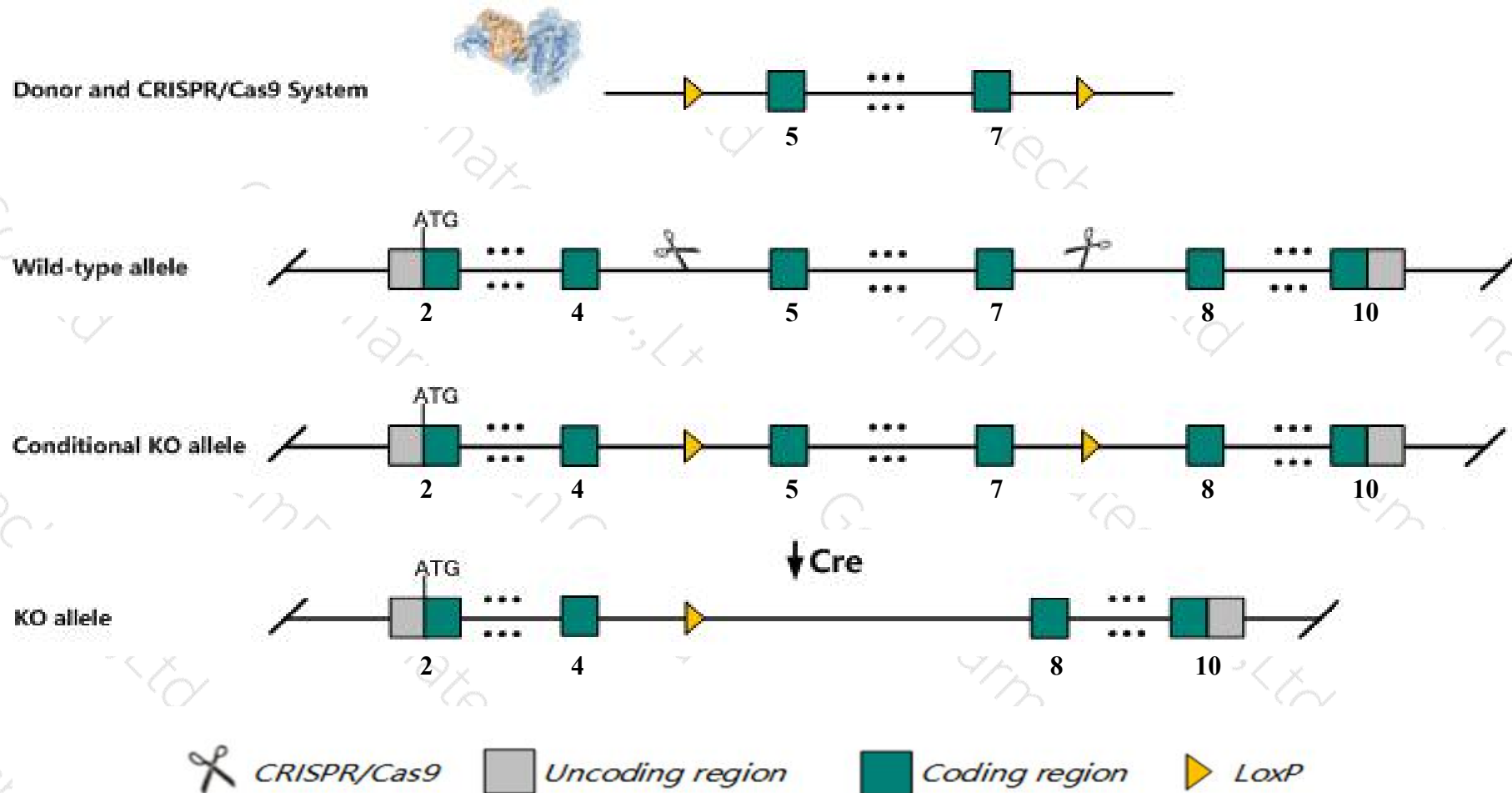
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



- The *Tagap* gene has 2 transcripts. According to the structure of *Tagap* gene, exon5-exon7 of *Tagap-201* (ENSMUST00000036370.7) transcript is recommended as the knockout region. The region contains 439bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Tagap* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Tagap* 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.
- *E430024P14Rik-203* gene may be affected.
- This strategy is designed based on genetic information in existing databases. Due to the complexity of biological processes, all risk of loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Tagap T cell activation Rho GTPase activating protein [*Mus musculus* (house mouse)]

Gene ID: 72536, updated on 8-Oct-2019

Summary

Official Symbol	Tagap provided by MGI
Official Full Name	T cell activation Rho GTPase activating protein provided by MGI
Primary source	MGI: MGI:3615484
See related	Ensembl: ENSMUSG00000033450
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	TRD; Tcd1; tcs1; Tcd-1; Tcd1a; tcs-1; 2610315E15Rik
Expression	Ubiquitous expression in testis adult (RPKM 13.2), thymus adult (RPKM 13.1) and 28 other tissues See more
Orthologs	human all

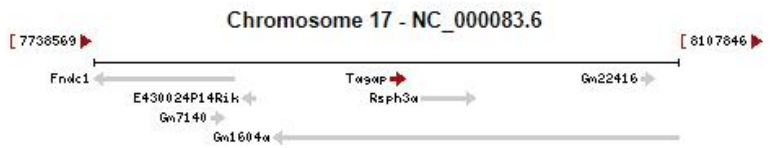
Genomic context

Location: 17; 17 A1

See Tagap in [Genome Data Viewer](#)

Exon count: 10

Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	17	NC_000083.6 (7926000..7934897)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	17	NC_000083.5 (8118865..8127762)

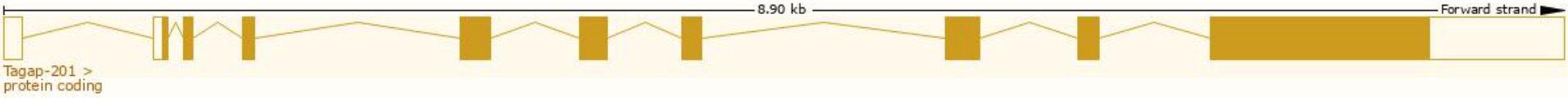


Transcript information (Ensembl)

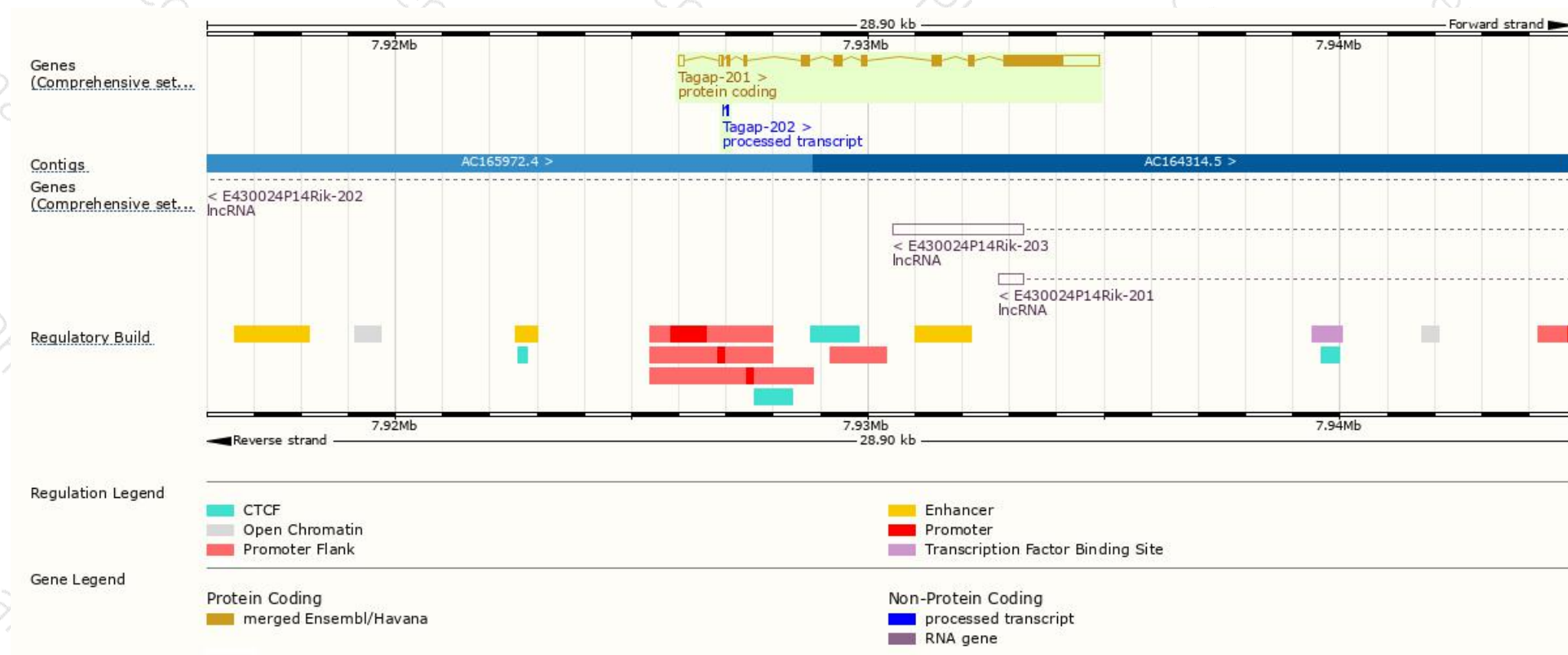
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Tagap-201	ENSMUST00000036370.7	3076	714aa	Protein coding	CCDS28379	B2RWW0	TSL:1 GENCODE basic APPRIS P1
Tagap-202	ENSMUST00000226153.1	14	No protein	Processed transcript	-	-	-

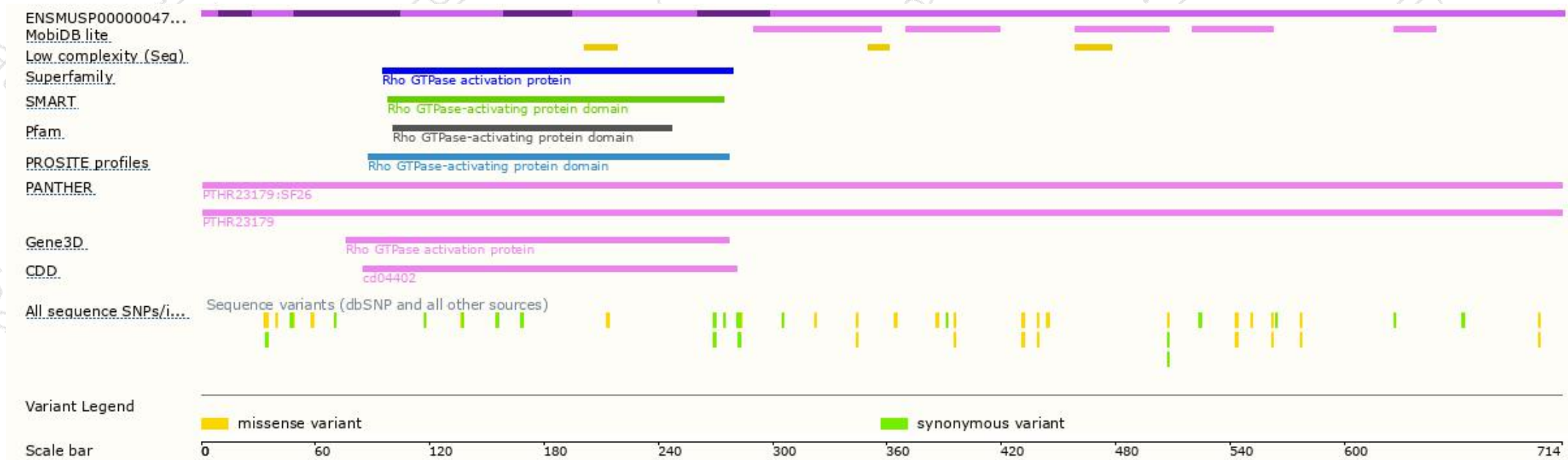
The strategy is based on the design of *Tagap-201* transcript, the transcription is shown below:



Genomic location distribution



Protein domain



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

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