

***Tmigd1* Cas9-KO Strategy**

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Reviewer:

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Project Overview

Project Name

Tmigd1

Project type

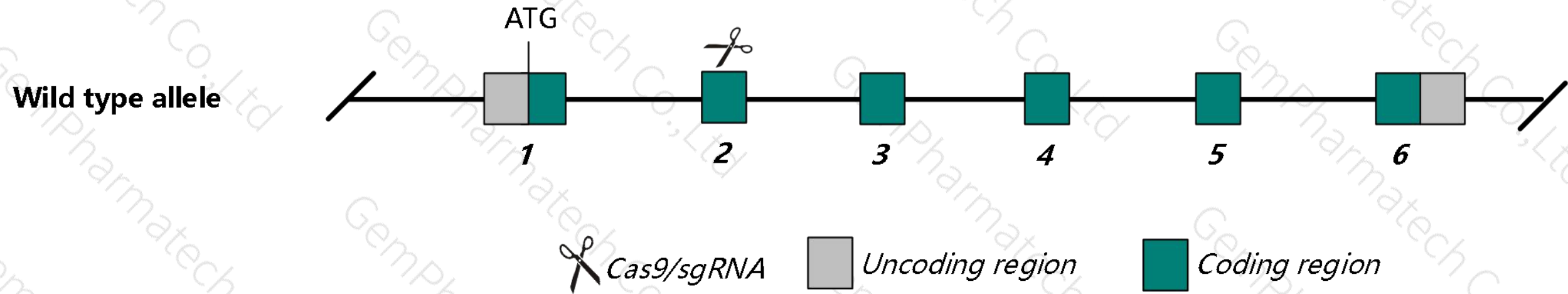
Cas9-KO

Strain background

C57BL/6N

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Tmigd1* gene. The schematic diagram is as follows:



Technical routes

- In this project we use CRISPR/Cas9 technology to modify *Tmigd1* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6N 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/6N mice.

- The *Tmigd1* gene is located on the Chr11. 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)

Tmigd1 transmembrane and immunoglobulin domain containing 1 [*Mus musculus* (house mouse)]

Gene ID: 66601, updated on 12-Aug-2019

Summary

Official Symbol Tmigd1 provided by MGI
Official Full Name transmembrane and immunoglobulin domain containing 1 provided by MGI
Primary source MGI: MGI:1913851
See related Ensembl: ENSMUSG00000020839
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 Tmigd; 2010002A20Rik
Expression Biased expression in large intestine adult (RPKM 33.2) and kidney adult (RPKM 9.3) [See more](#)
Orthologs [human](#) [all](#)

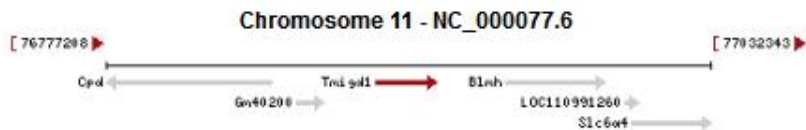
Genomic context

Location: 11; 11 B5

[See Tmigd1 in Genome Data Viewer](#)

Exon count: 8

Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	11	NC_000077.6 (76891091..76916587)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	11	NC_000077.5 (76718047..76730088)

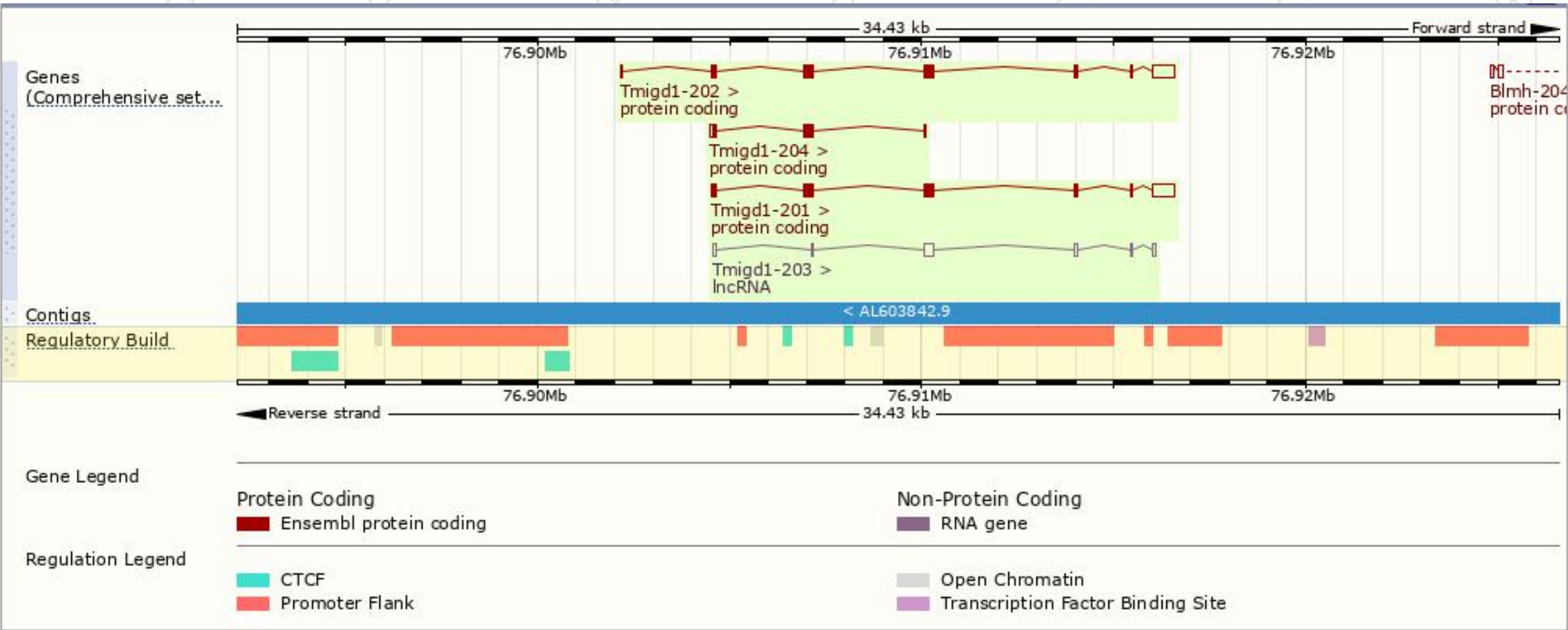


Transcript information (Ensembl)

The gene has 4 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Translation ID	Biotype	CCDS	UniProt	Flags
Tmigd1-202	ENSMUST00000102495.7	1427	261aa	ENSMUSP00000099553.1	Protein coding	CCDS25072	Q9D7L8	TSL:1 GENCODE basic APPRIS P1
Tmigd1-201	ENSMUST00000072633.3	1366	261aa	ENSMUSP00000072427.3	Protein coding	CCDS25072	Q9D7L8	TSL:1 GENCODE basic APPRIS P1
Tmigd1-204	ENSMUST00000142166.7	513	140aa	ENSMUSP00000121222.1	Protein coding	-	Q5NCR1	CDS 3' incomplete TSL:2
Tmigd1-203	ENSMUST00000136899.1	658	No protein	-	lncRNA	-	-	TSL:3

Genomic location distribution



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

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