

Tle6 Cas9-KO Strategy

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Project Overview

Project Name

Tle6

Project type

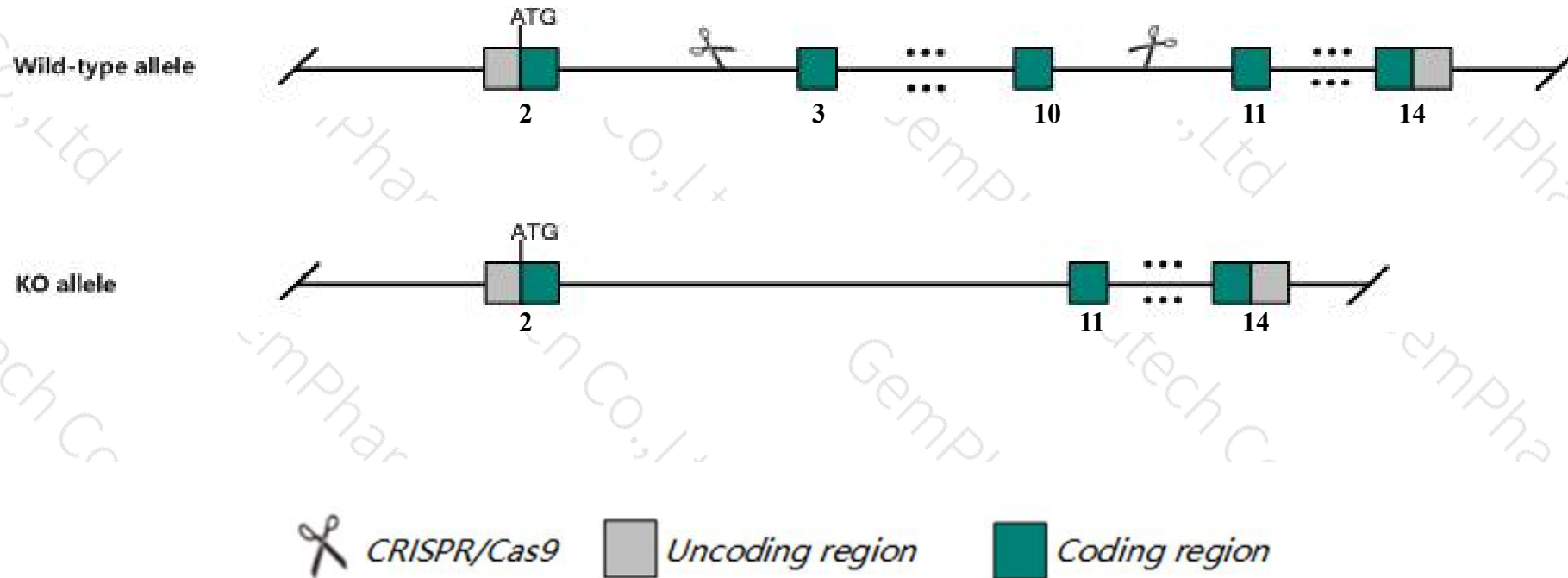
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Tle6* gene. The schematic diagram is as follows:



- The *Tle6* gene has 14 transcripts. According to the structure of *Tle6* gene, exon3-exon10 of *Tle6-201* (ENSMUST00000072020.8) transcript is recommended as the knockout region. The region contains 1223bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Tle6* gene. The brief process is as follows: CRISPR/Cas9 system w

- The knockout region is near to the N-terminal of *BC025920* gene, this strategy may influence the regulatory function of the N-terminal of *BC025920* gene.
- Transcript *Tle6*-205&211 may not be affected.
- The *Tle6* gene is located on the Chr10. 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)

Tle6 transducin-like enhancer of split 6 [*Mus musculus* (house mouse)]

Gene ID: 114606, updated on 14-Aug-2019

Summary

- Official Symbol** Tle6 provided by [MGI](#)
- Official Full Name** transducin-like enhancer of split 6 provided by [MGI](#)
- Primary source** [MGI:MGI:2149593](#)
- See related** [Ensembl:ENSMUSG00000034758](#)
- 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** Grg6; 1810057E06Rik
- Expression** Broad expression in ovary adult (RPKM 24.8), adrenal adult (RPKM 10.1) and 17 other tissues [See more](#)
- Orthologs** [human](#) [all](#)

Genomic context

Location: 10; 10 C1 See Tle6 in [Genome Data Viewer](#)

Exon count: 16

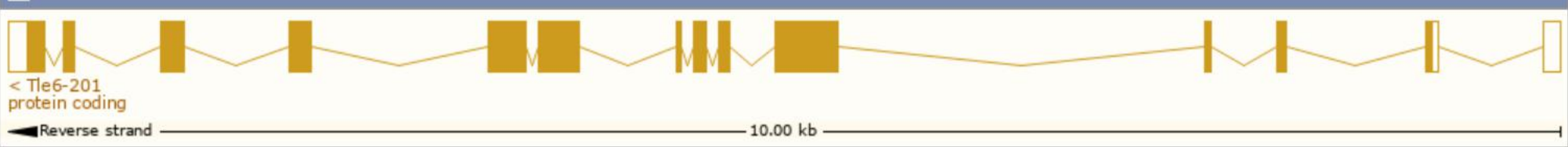
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	10	NC_000076.6 (81590904..81601185, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	10	NC_000076.5 (81053650..81063645, complement)

Transcript information (Ensembl)

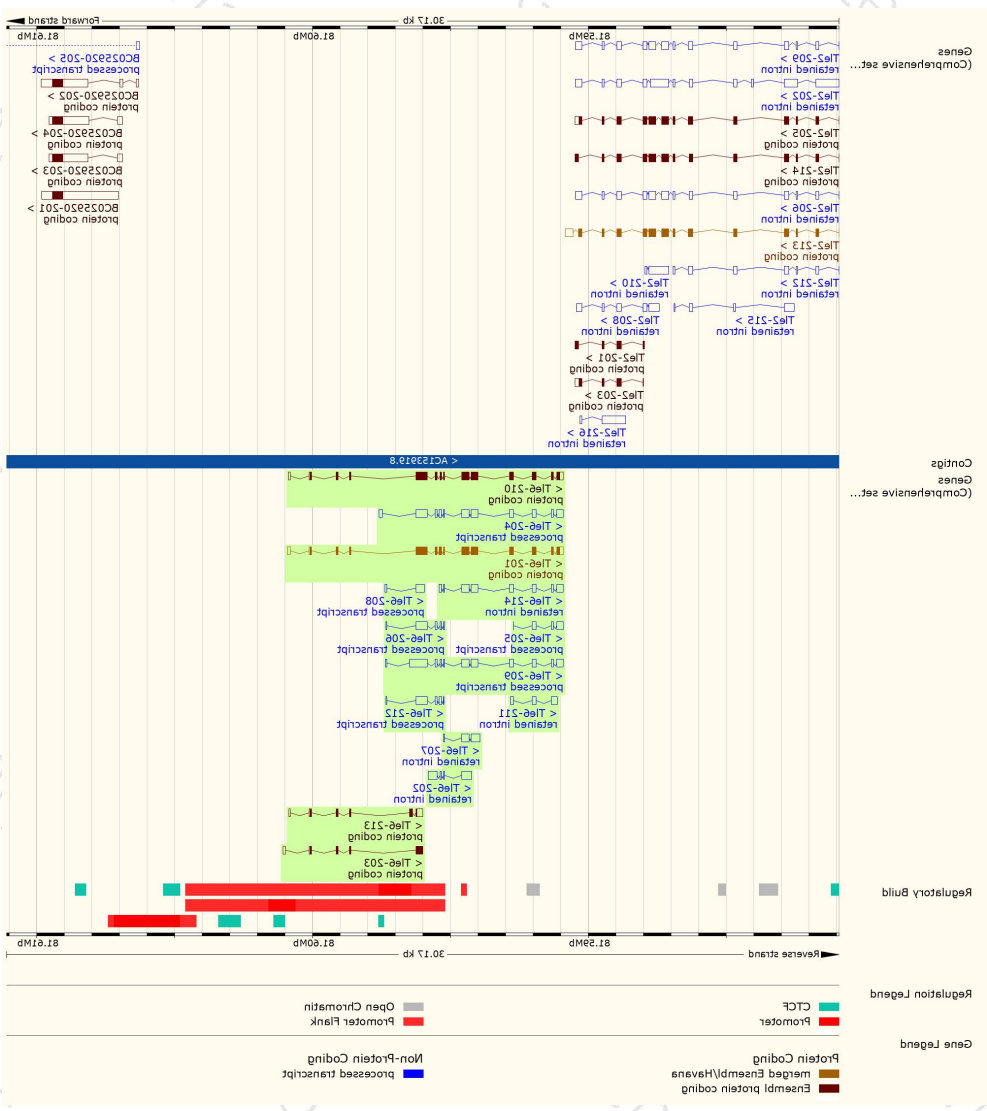
The gene has 14 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Tle6-201	ENSMUST00000072020.8	2015	581aa	Protein coding	CCDS24064	Q9WVB3	TSL:1 GENCODE basic APPRIS P3
Tle6-210	ENSMUST00000142948.7	1961	571aa	Protein coding	CCDS83737	D3Z5E1	TSL:1 GENCODE basic APPRIS ALT2
Tle6-213	ENSMUST00000151858.7	627	101aa	Protein coding	-	D6RI70	TSL:3 GENCODE basic
Tle6-203	ENSMUST00000127546.1	544	137aa	Protein coding	-	D3YV26	CDS 3' incomplete TSL:3
Tle6-209	ENSMUST00000137631.7	1972	No protein	Processed transcript	-	-	TSL:1
Tle6-204	ENSMUST00000128278.7	1855	No protein	Processed transcript	-	-	TSL:1
Tle6-212	ENSMUST00000149721.1	623	No protein	Processed transcript	-	-	TSL:3
Tle6-206	ENSMUST00000131530.7	620	No protein	Processed transcript	-	-	TSL:2
Tle6-205	ENSMUST00000129282.7	469	No protein	Processed transcript	-	-	TSL:2
Tle6-208	ENSMUST00000135008.1	375	No protein	Processed transcript	-	-	TSL:2
Tle6-214	ENSMUST00000153379.7	1246	No protein	Retained intron	-	-	TSL:1
Tle6-202	ENSMUST00000124724.7	767	No protein	Retained intron	-	-	TSL:3
Tle6-207	ENSMUST00000134457.1	620	No protein	Retained intron	-	-	TSL:2
Tle6-211	ENSMUST00000146239.1	464	No protein	Retained intron	-	-	TSL:3

The strategy is based on the design of *Tle6-201* 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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