



# ***Tle7 Cas9-KO Strategy***

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# Project Overview

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**Project Name**

*Tle7*

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**Project type**

**Cas9-KO**

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**Strain background**

**C57BL/6JGpt**

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# Knockout strategy

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This model will use CRISPR/Cas9 technology to edit the *Tle7* gene. The schematic diagram is as follows:

- The *Tle7* gene has 3 transcripts. According to the structure of *Tle7* gene, exon2-exon10 of *Tle7*-202 ( ENSMUST00000213641.1) transcript is recommended as the knockout region. The region contains most 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 *Tle7* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9, sgRNA 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 *Tle7* gene is located on the Chr8. 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.



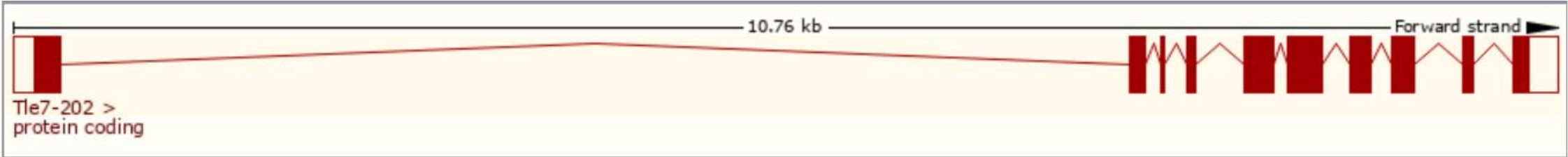
# Transcript information      Ensembl



The gene has 3 transcripts, and all transcripts are shown below:

Name ▾	Transcript ID ▲	bp ▾	Protein ▾	Biotype ▾	CCDS ▾	UniProt ▾	Flags ▾
Tle7-201	<a href="#">ENSMUST00000178785.1</a>	936	<a href="#">311aa</a>	Protein coding	-	<a href="#">J3QNV0</a>	TSL:5 GENCODE basic
Tle7-202	<a href="#">ENSMUST00000213641.1</a>	1649	<a href="#">430aa</a>	Protein coding	-	<a href="#">A0A1L1SR16</a>	TSL:5 GENCODE basic APPRIS ALT2
Tle7-203	<a href="#">ENSMUST00000219454.1</a>	1513	<a href="#">437aa</a>	Protein coding	-	<a href="#">A0A1W2P7S4</a>	TSL:5 GENCODE basic APPRIS P5

The strategy is based on the design of *Tle7-202* transcript, The transcription is shown below:



# Genomic location distribution

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# Protein domain

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