

***Klhl5* Cas9-KO Strategy**

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Project Overview

Project Name

Klhl5

Project type

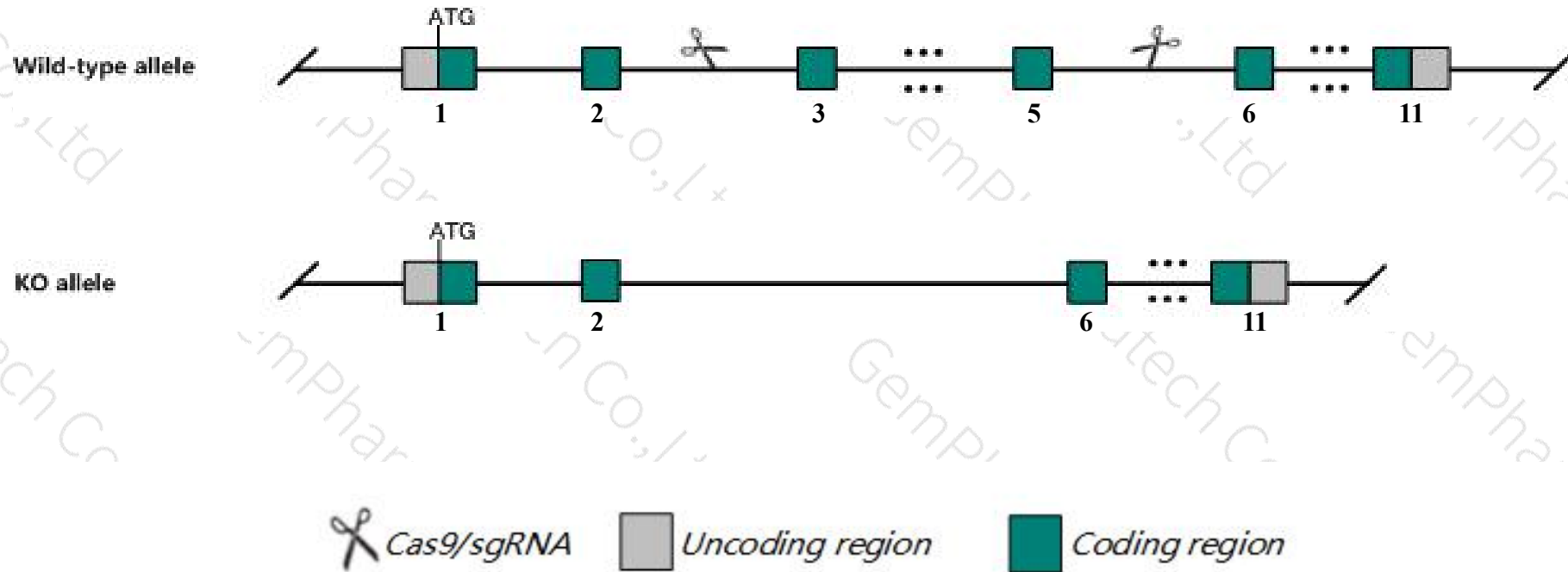
Cas9-KO

Strain background

C57BL/6J

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Klhl5* gene. The schematic diagram is as follows:



- The *Klhl5* gene has 7 transcripts. According to the structure of *Klhl5* gene, exon3-exon5 of *Klhl5-201* (ENSMUST00000101191.9) transcript is recommended as the knockout region. The region contains 547bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Klhl5* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6J 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/6J mice.

- The *Klhl5* gene is located on the Chr5. 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)

Klhl5 kelch-like 5 [Mus musculus (house mouse)]

Gene ID: 71778, updated on 31-Jan-2019

Summary



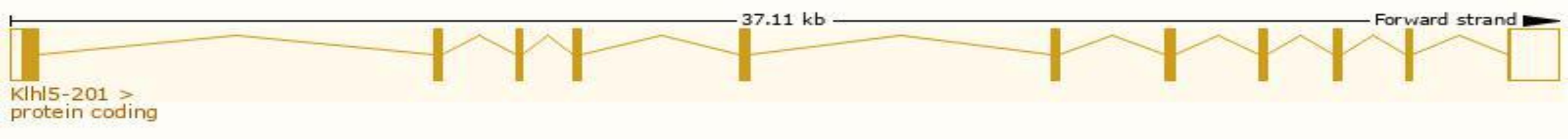
Official Symbol	Klhl5 provided by MGI
Official Full Name	kelch-like 5 provided by MGI
Primary source	MGI:MGI:1919028
See related	Ensembl:ENSMUSG00000054920
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1300013C10Rik
Expression	Ubiquitous expression in lung adult (RPKM 16.4), CNS E18 (RPKM 7.3) and 26 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

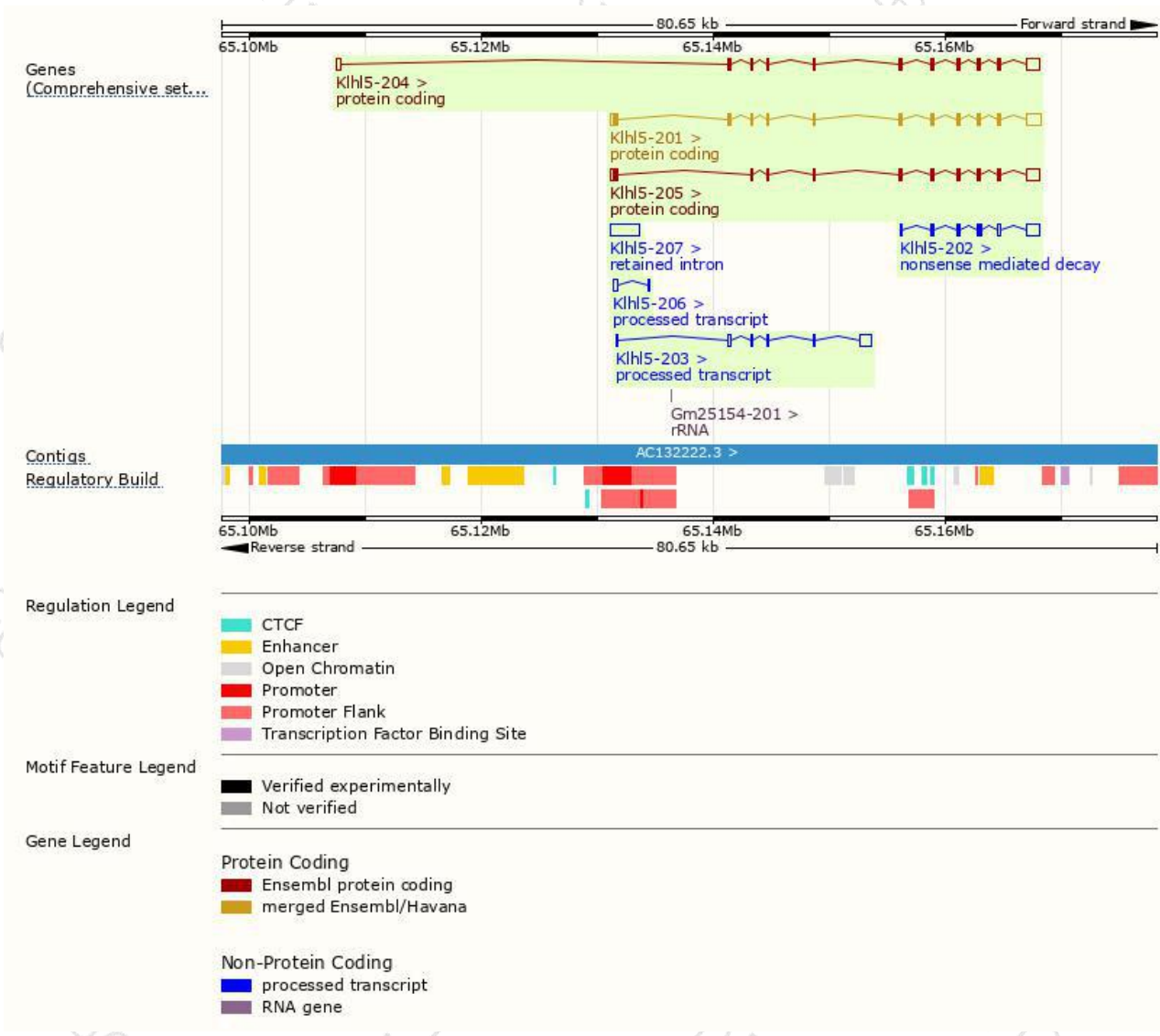
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Klhl5-201	ENSMUST00000101191.9	3610	708aa	Protein coding	CCDS19305	Q6PFE1	TSL:1 GENCODE basic APPRIS P3
Klhl5-204	ENSMUST00000204097.2	3149	568aa	Protein coding	CCDS84883	E9Q1L2	TSL:1 GENCODE basic APPRIS ALT 1
Klhl5-205	ENSMUST00000204348.2	3380	647aa	Protein coding	-	E9QA66	TSL:5 GENCODE basic
Klhl5-202	ENSMUST00000203538.1	2196	258aa	Nonsense mediated decay	-	A0A0G2JEQ1	CDS 5' incomplete TSL:1
Klhl5-203	ENSMUST00000203561.1	1855	No protein	Processed transcript	-	-	TSL:1
Klhl5-206	ENSMUST00000204479.1	594	No protein	Processed transcript	-	-	TSL:3
Klhl5-207	ENSMUST00000204829.1	2431	No protein	Retained intron	-	-	TSL:NA

The strategy is based on the design of *Klhl5-201* 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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