

Krt35 Cas9-CKO Strategy

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Reviewer:

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Design Date:

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Project Overview



Project Name

Krt35

Project type

Cas9-CKO

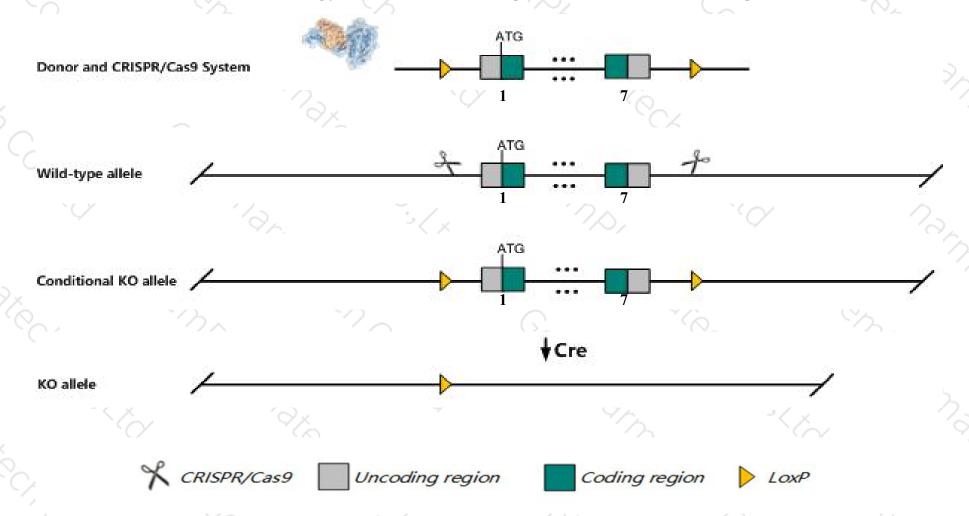
Strain background

C57BL/6JGpt

Conditional Knockout strategy



This model will use CRISPR/Cas9 technology to edit the Krt35 gene. The schematic diagram is as follows:



Technical routes



- The *Krt35* gene has 2 transcripts. According to the structure of *Krt35* gene, exon1-exon7 of *Krt35-201* (ENSMUST00000103127.3) transcript is recommended as the knockout region. The region contains all 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 *Krt35* 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 flox region is approximately 3.8 kb from the 5 end of the *Krt32* gene, and its effect is unknown.
- The *Krt35* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)



Krt35 keratin 35 [Mus musculus (house mouse)]

Gene ID: 53617, updated on 12-Aug-2019

Summary

☆ ?

Official Symbol Krt35 provided by MGI

Official Full Name keratin 35 provided by MGI

Primary source MGI:MGI:1858899

See related Ensembl: ENSMUSG00000048013

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 Ha5; Krtha5; Krt1-24; Al662400

Expression Low expression observed in reference dataset See more

Orthologs human all

Genomic context



Location: 11; 11 D

See Krt35 in Genome Data Viewer

Exon count: 7

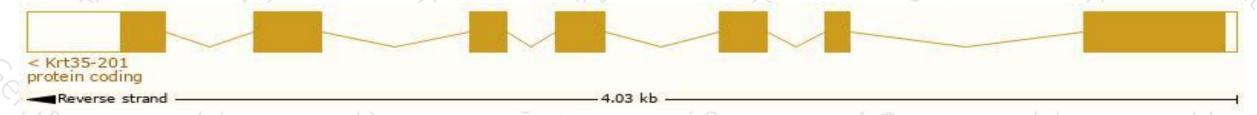
Transcript information (Ensembl)



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

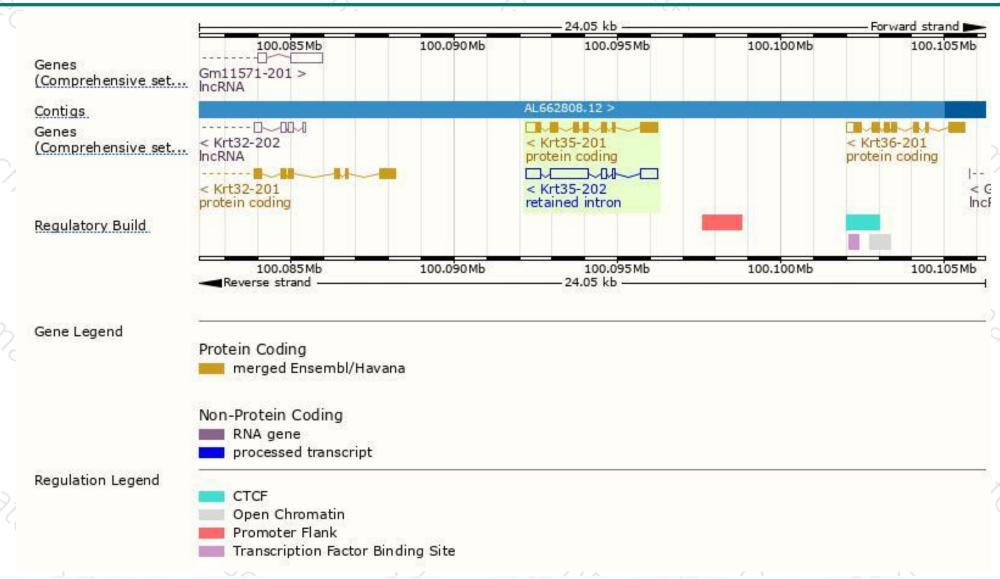
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Krt35-201	ENSMUST00000103127.3	1722	<u>455aa</u>	Protein coding	CCDS25407	Q49714	TSL:1 GENCODE basic APPRIS P1
Krt35-202	ENSMUST00000173988.1	2394	No protein	Retained intron	-		TSL:2

The strategy is based on the design of *Krt35-201* transcript, The transcription is shown below



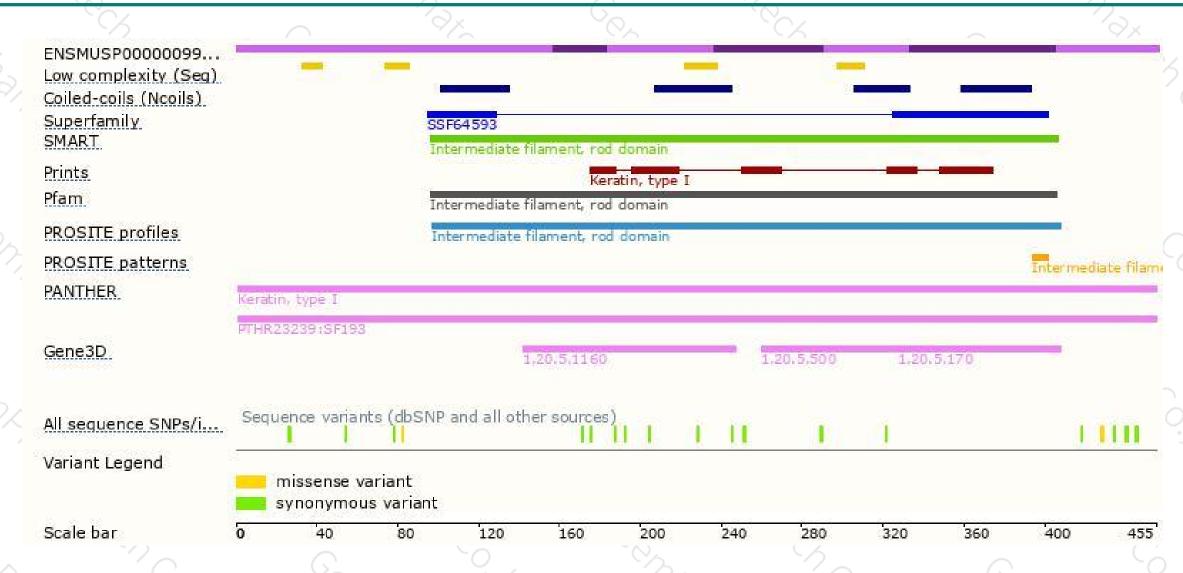
Genomic location distribution





Protein domain







If you have any questions, you are welcome to inquire. Tel: 400-9660890





