

Klk13 Cas9-KO Strategy

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Project Overview

Project Name

Klk13

Project type

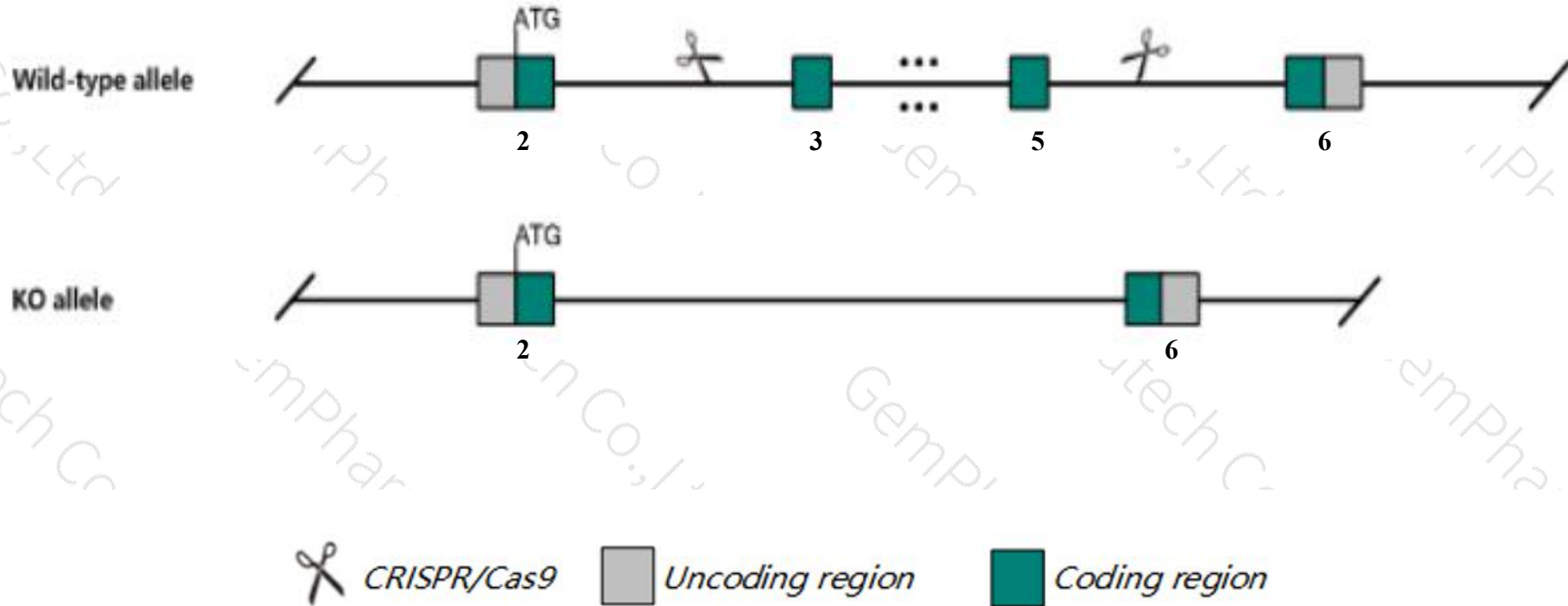
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Klk13* gene. The schematic diagram is as follows:



- The *Klk13* gene has 3 transcripts. According to the structure of *Klk13* gene, exon3-exon5 of *Klk13-201* (ENSMUST00000066834.7) transcript is recommended as the knockout region. The region contains 596bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Klk13* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Klk13* gene is located on the Chr7. 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)

Klk13 kallikrein related-peptidase 13 [Mus musculus (house mouse)]

Gene ID: 626834, updated on 13-Mar-2020

Summary



Official Symbol	Klk13 provided by MGI
Official Full Name	kallikrein related-peptidase 13 provided by MGI
Primary source	MGI:MGI:3615275
See related	Ensembl:ENSMUSG00000054046
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	Egfbp-2, mGk-13
Summary	Kallikreins are serine proteases encoded by a cluster of highly related genes on chromosome 7. When genomic sequence became available, it was possible to clarify the gene-to-sequence relationship for this family. Until January, 2006, NM_010115 was called kallikrein 13. After that time, NM_001039042 was called Klk13 and NM_010115 was called Klk1b26. [provided by RefSeq, Jul 2008]
Expression	Biased expression in stomach adult (RPKM 14.7) and lung adult (RPKM 5.4) See more

Transcript information (Ensembl)

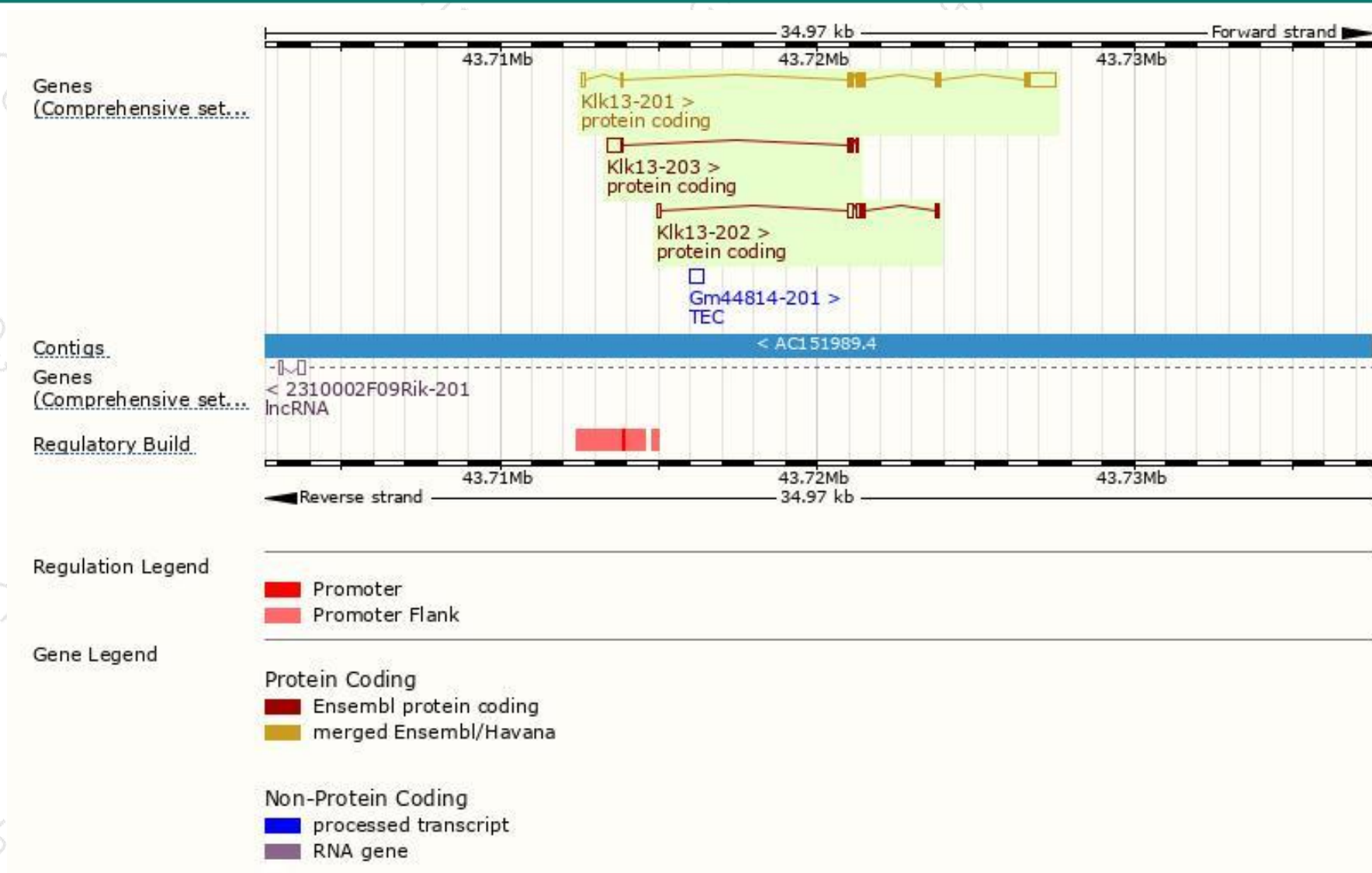
The gene has 3 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Klk13-201	ENSMUST00000066834.7	1809	276aa	Protein coding	CCDS39933	Q8CGR6	TSL:1 GENCODE basic APPRIS P1
Klk13-203	ENSMUST00000206554.1	718	95aa	Protein coding	-	A0A0U1RNY1	CDS 3' incomplete TSL:3
Klk13-202	ENSMUST00000205457.1	667	107aa	Protein coding	-	A0A0U1RP84	CDS 3' incomplete TSL:3

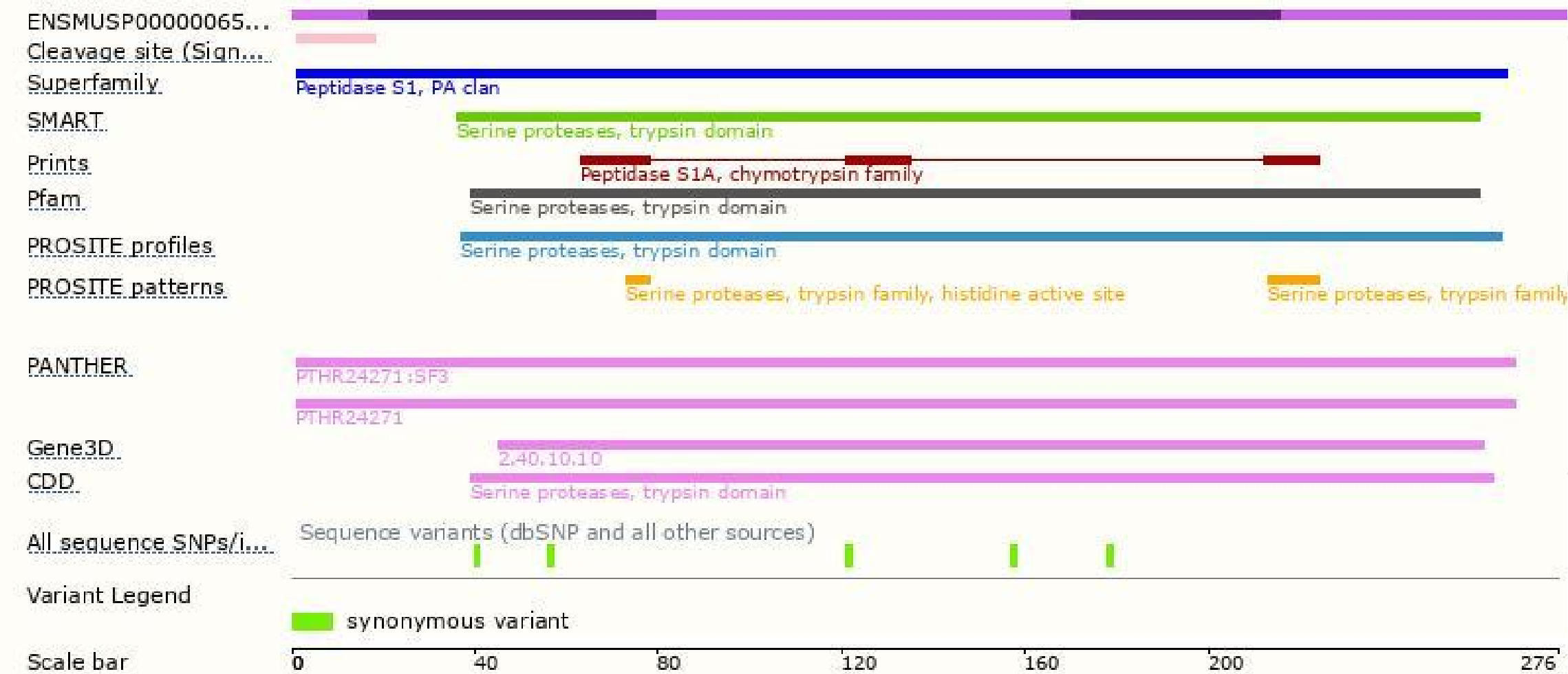
The strategy is based on the design of *Klk13-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

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