Krt39 Cas9-KO Strategy

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Design Date: **2020-01-31**

Project Overview

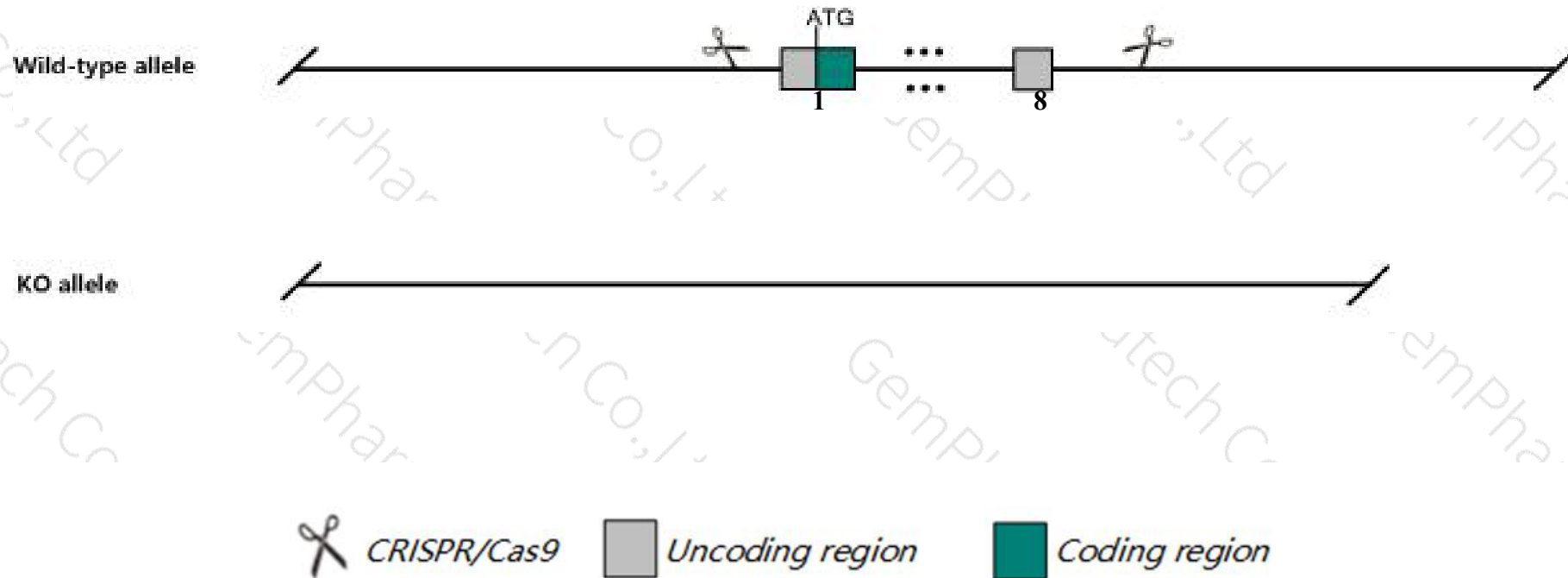|	
Project Name	*Krt39*
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Krt39* gene. The schematic diagram is as follows:

Technical routes

➢ The *Krt39* gene has 2 transcripts. According to the structure of *Krt39* gene, exon1-exon8 of *Krt39-202* (ENSMUST00000107445.7) transcript is recommended as the knockout region.The region contains start codon ATG. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Krt39* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

➤ The *Krt39* 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information （NCBI）

Krt39 keratin 39 [*Mus musculus* (house mouse)]

Gene ID: 237934, updated on 12-Aug-2019

⌃ Summary

Official Symbol	Krt39 provided by MGI
Official Full Name	keratin 39 provided by MGI
Primary source	MGI:MGI:3588208
See related	Ensembl:ENSMUSG00000064165
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	Ka35; 4732494G06Rik
Expression	Low expression observed in reference dataset See more
Orthologs	human all

⌃ Genomic context

Location: 11; 11 D

Exon count: 7

See Krt39 in Genome Data Viewer

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

| Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Krt39-202	ENSMUST00000107445.7	1633	482aa	Protein coding	CCDS25383	Q6IFX4	TSL:5 GENCODE basic APPRIS P1
Krt39-201	ENSMUST00000076948.1	1449	482aa	Protein coding	CCDS25383	Q6IFX4	TSL:1 GENCODE basic APPRIS P1

The strategy is based on the design of *Krt39-202* transcript,The transcription is shown below

< Krt39-202
protein coding

◀ Reverse strand

7.22 kb
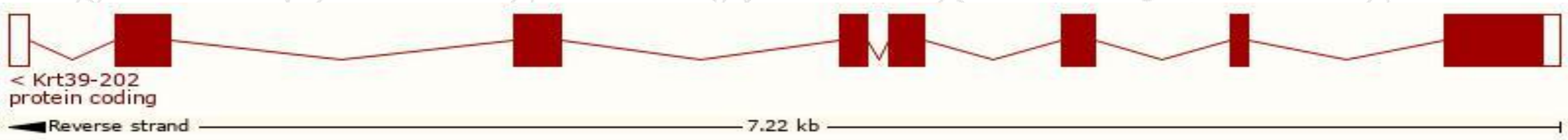
Genomic location distribution
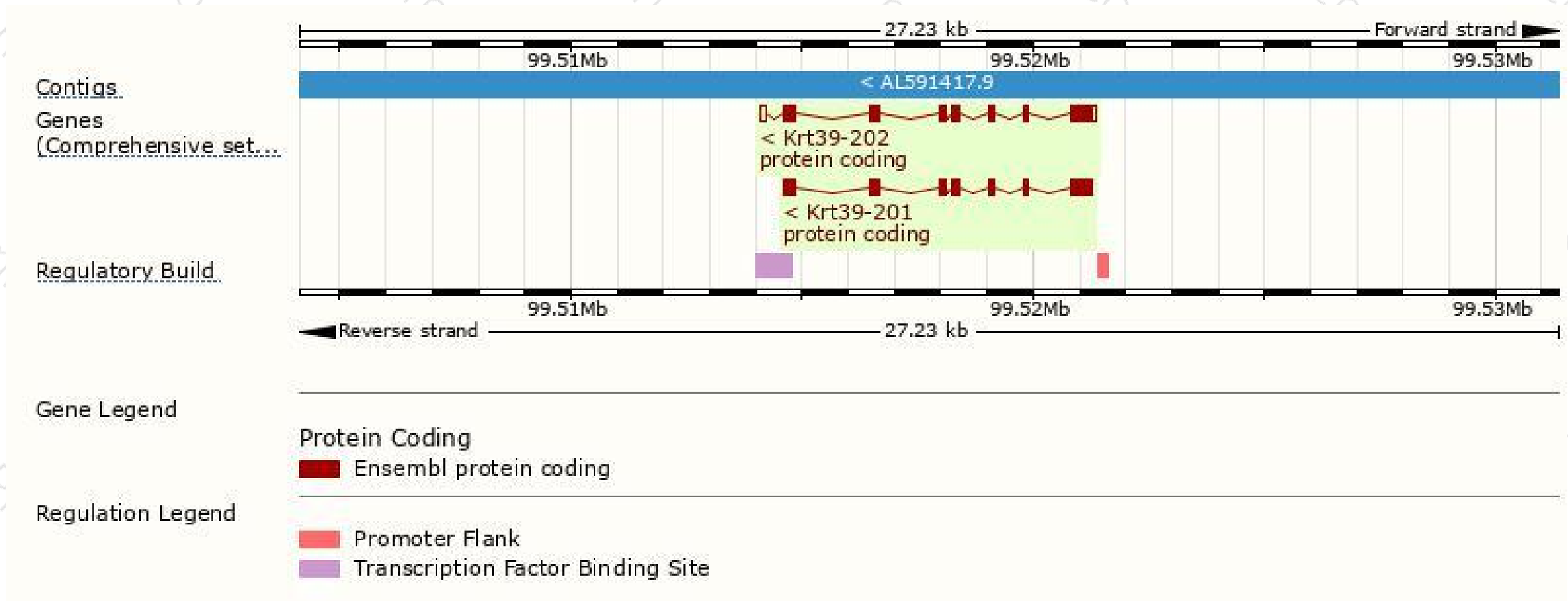
Protein domain
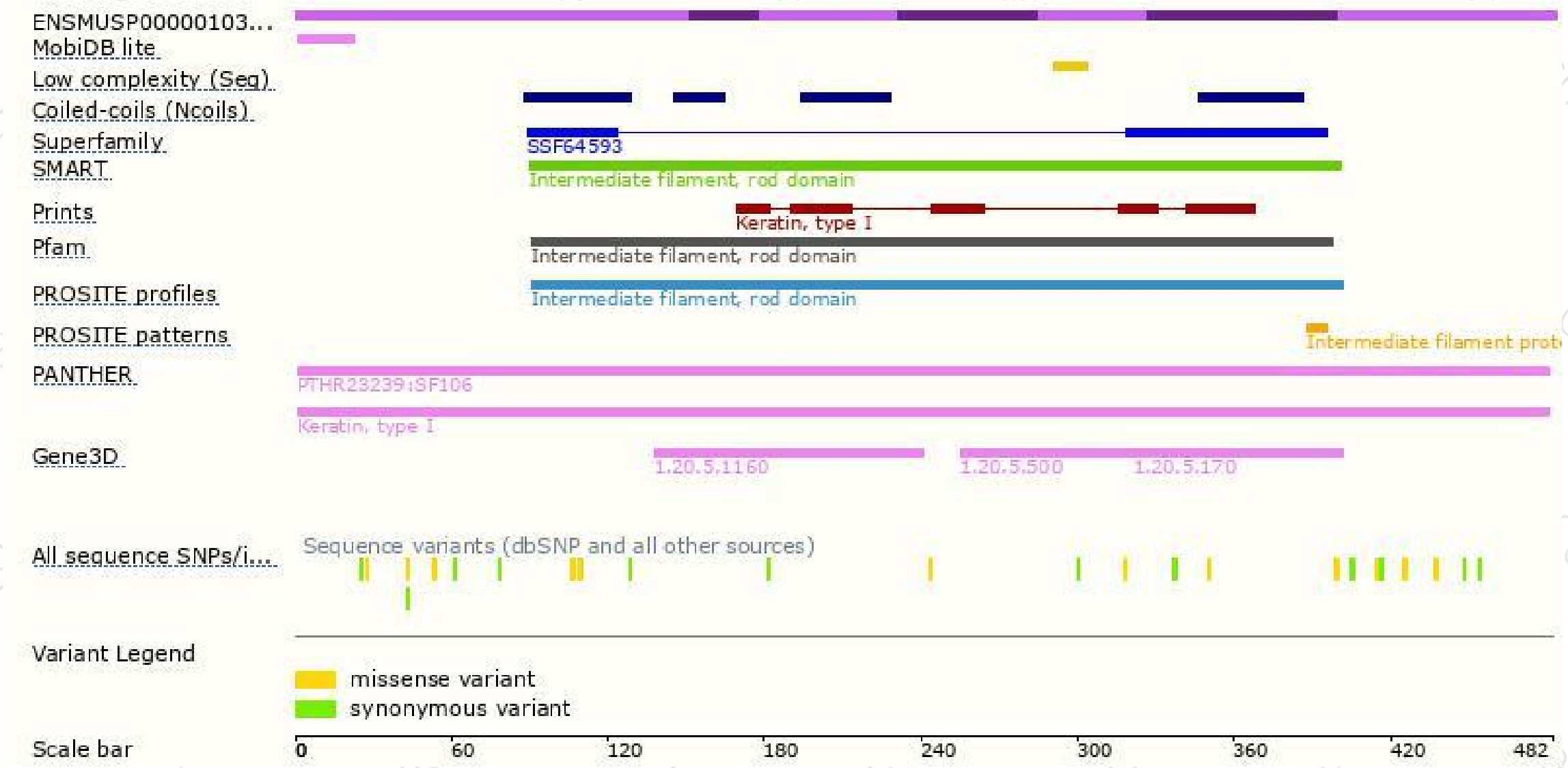
If you have any questions, you are welcome to inquire.
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