

***Kctd5* Cas9-KO Strategy**

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Project Overview

Project Name

Kctd5

Project type

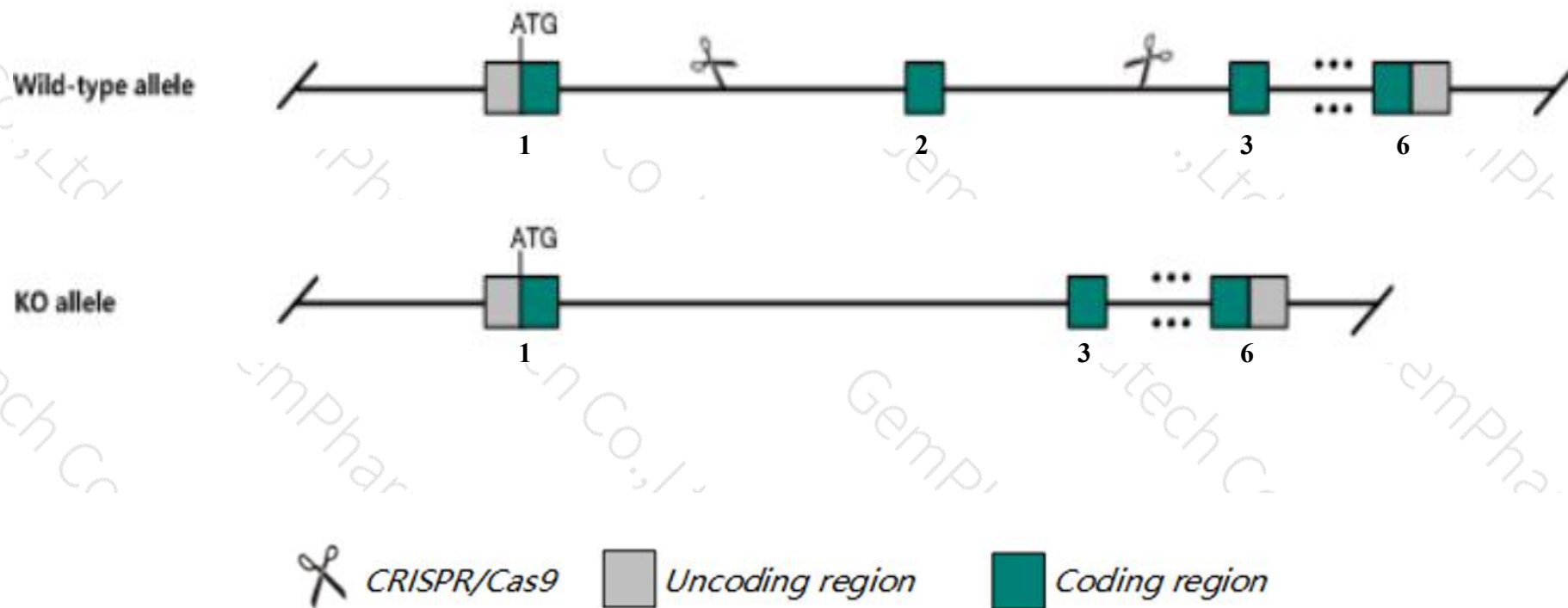
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Kctd5* gene. The schematic diagram is as follows:



- The *Kctd5* gene has 3 transcripts. According to the structure of *Kctd5* gene, exon2 of *Kctd5-201* (ENSMUST00000017090.5) transcript is recommended as the knockout region. The region contains 109bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Kctd5* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Kctd5* gene is located on the Chr17. 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)

Kctd5 potassium channel tetramerisation domain containing 5 [Mus musculus (house mouse)]

Gene ID: 69259, updated on 13-Mar-2020

Summary



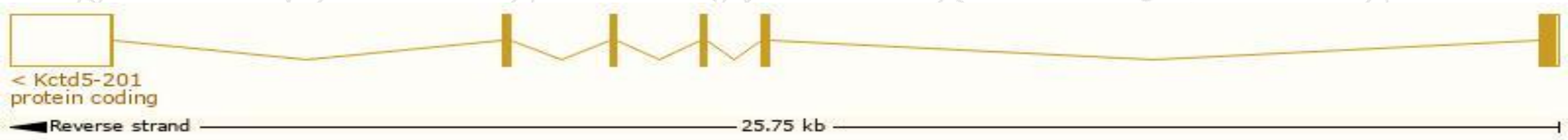
Official Symbol	Kctd5 provided by MGI
Official Full Name	potassium channel tetramerisation domain containing 5 provided by MGI
Primary source	MGI:MGI:1916509
See related	Ensembl:ENSMUSG00000016946
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2610030N08Rik, mKIAA0176
Expression	Ubiquitous expression in large intestine adult (RPKM 36.5), duodenum adult (RPKM 33.7) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

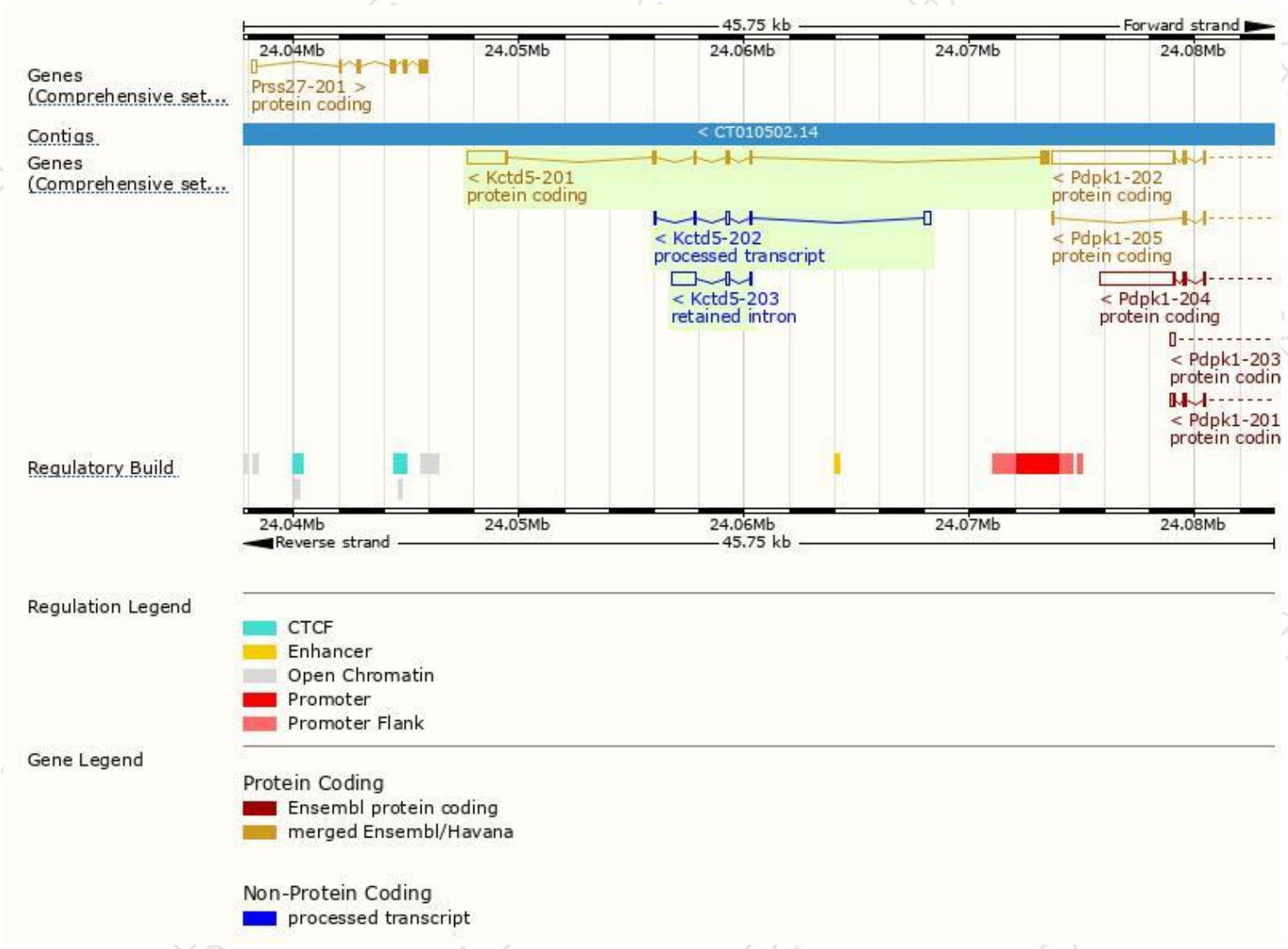
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Kctd5-201	ENSMUST00000017090.5	2443	234aa	Protein coding	CCDS28473	A0A0R4J000	TSL:1 GENCODE basic APPRIS P1
Kctd5-202	ENSMUST00000127755.1	654	No protein	Processed transcript	-	-	TSL:3
Kctd5-203	ENSMUST00000234555.1	1242	No protein	Retained intron	-	-	

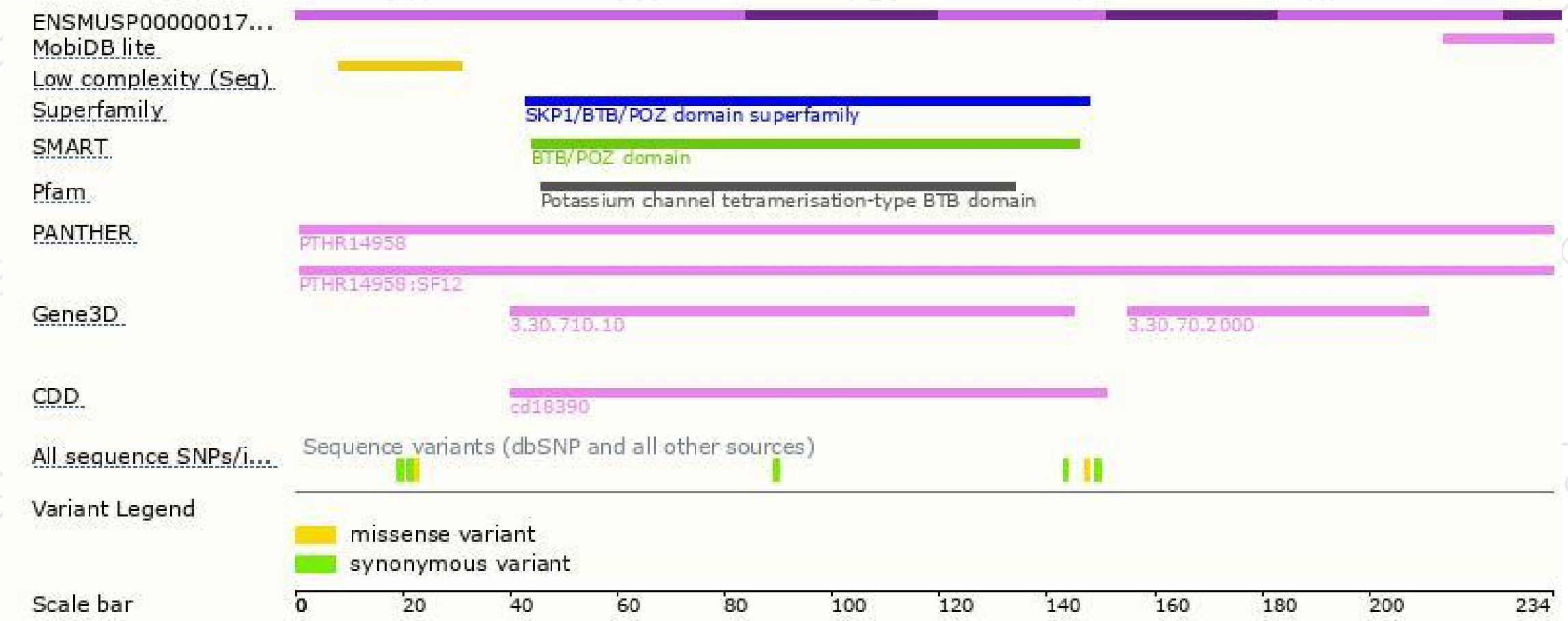
The strategy is based on the design of *Kctd5-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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