

***Kctd15* Cas9-KO Strategy**

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Project Overview

Project Name

Kctd15

Project type

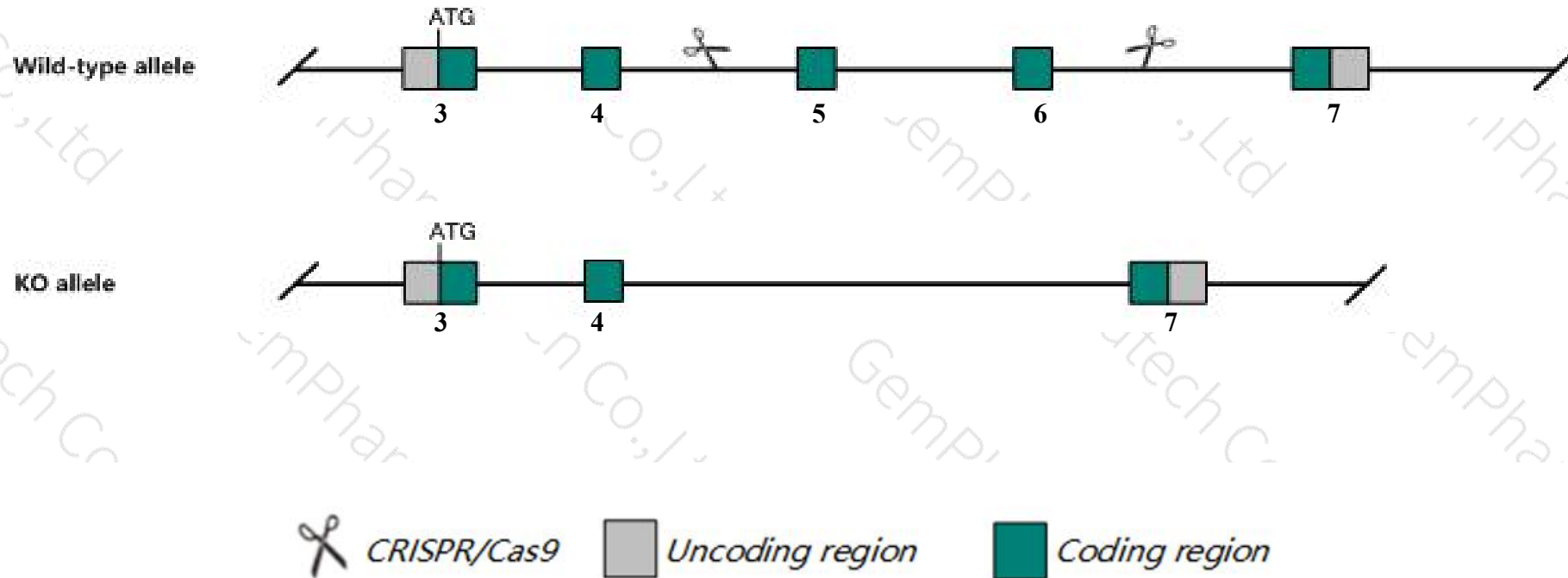
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Kctd15* gene. The schematic diagram is as follows:



- The *Kctd15* gene has 8 transcripts. According to the structure of *Kctd15* gene, exon5-exon6 of *Kctd15-201* (ENSMUST00000032709.2) transcript is recommended as the knockout region. The region contains 451bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Kctd15* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Kctd15* 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)

Kctd15 potassium channel tetramerisation domain containing 15 [Mus musculus (house mouse)]

Gene ID: 233107, updated on 31-Jan-2019

Summary



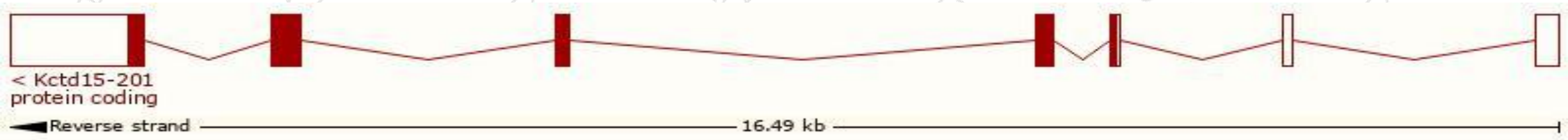
Official Symbol	Kctd15 provided by MGI
Official Full Name	potassium channel tetramerisation domain containing 15 provided by MGI
Primary source	MGI:MGI:2385276
See related	Ensembl:ENSMUSG00000030499
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	BC031749
Expression	Broad expression in whole brain E14.5 (RPKM 20.1), CNS E14 (RPKM 19.4) and 24 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

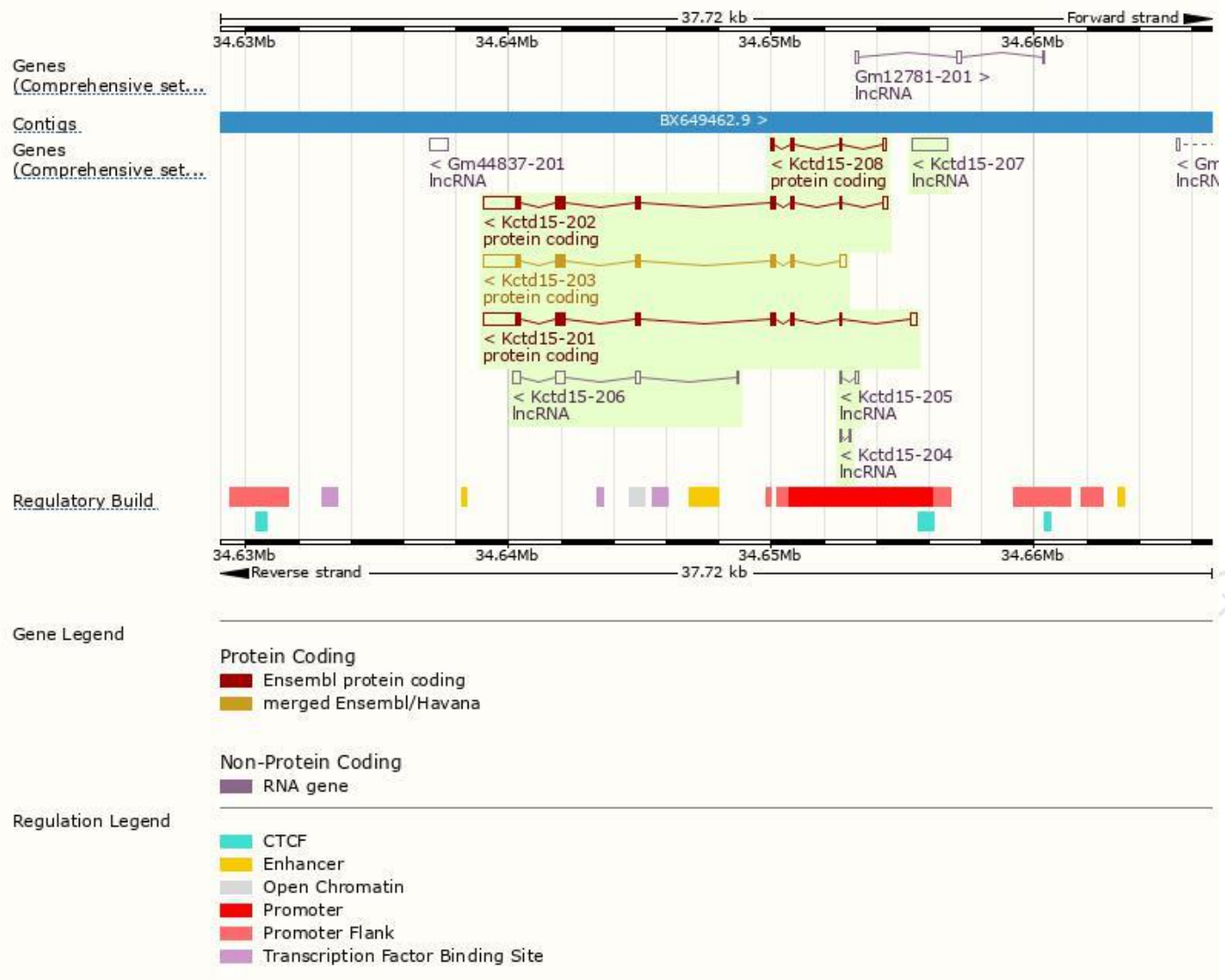
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Kctd15-201	ENSMUST00000032709.2	2480	283aa	Protein coding	CCDS21141	Q8K0E1	TSL:1 GENCODE basic APPRIS P1
Kctd15-203	ENSMUST00000108070.8	2409	283aa	Protein coding	CCDS21141	Q8K0E1	TSL:1 GENCODE basic APPRIS P1
Kctd15-202	ENSMUST00000108069.7	2407	283aa	Protein coding	CCDS21141	Q8K0E1	TSL:5 GENCODE basic APPRIS P1
Kctd15-208	ENSMUST00000206501.1	417	49aa	Protein coding	-	A0A0U1RP38	CDS 3' incomplete TSL:3
Kctd15-207	ENSMUST00000205843.1	1363	No protein	Processed transcript	-	-	TSL:NA
Kctd15-206	ENSMUST00000205419.1	743	No protein	Processed transcript	-	-	TSL:5
Kctd15-205	ENSMUST00000155093.5	157	No protein	Processed transcript	-	-	TSL:2
Kctd15-204	ENSMUST00000127425.3	144	No protein	Processed transcript	-	-	TSL:2

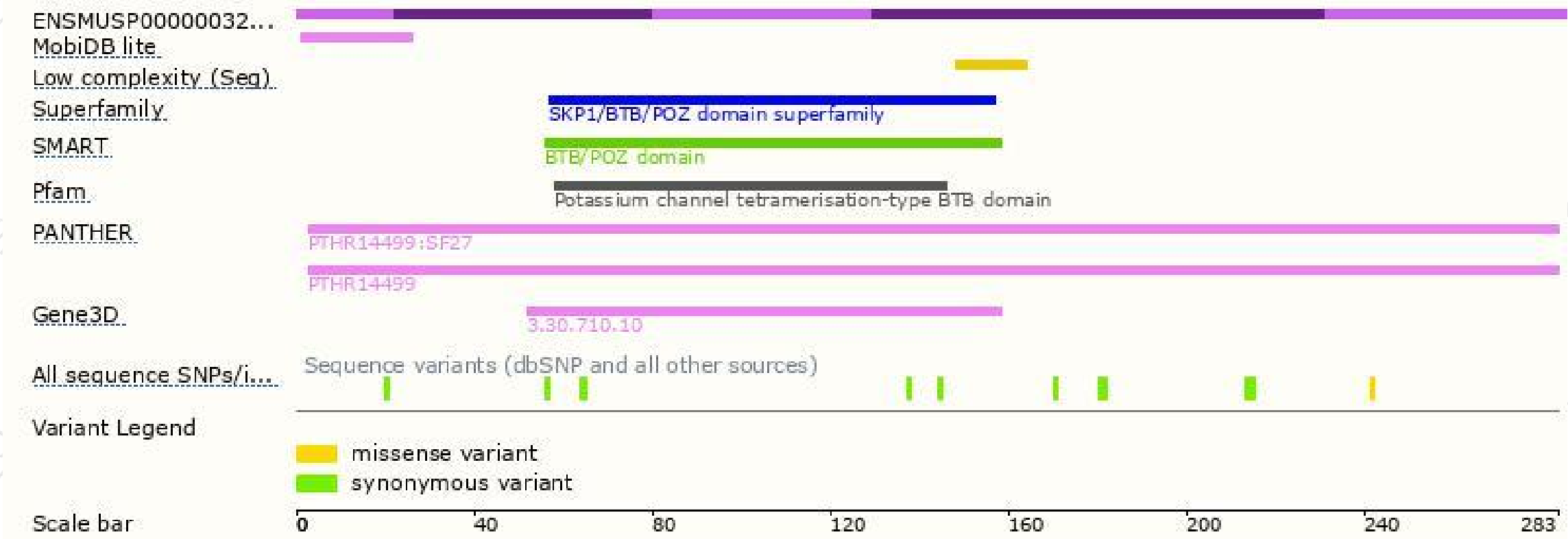
The strategy is based on the design of *Kctd15-201* transcript,The transcription is shown below



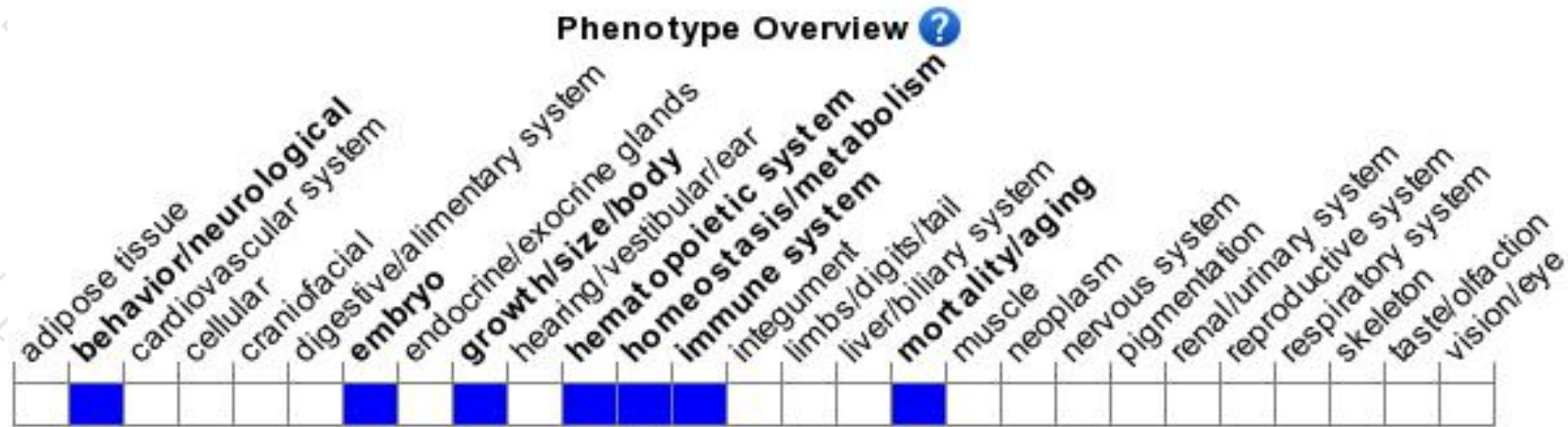
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

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