Ttc22 Cas9-KO Strategy

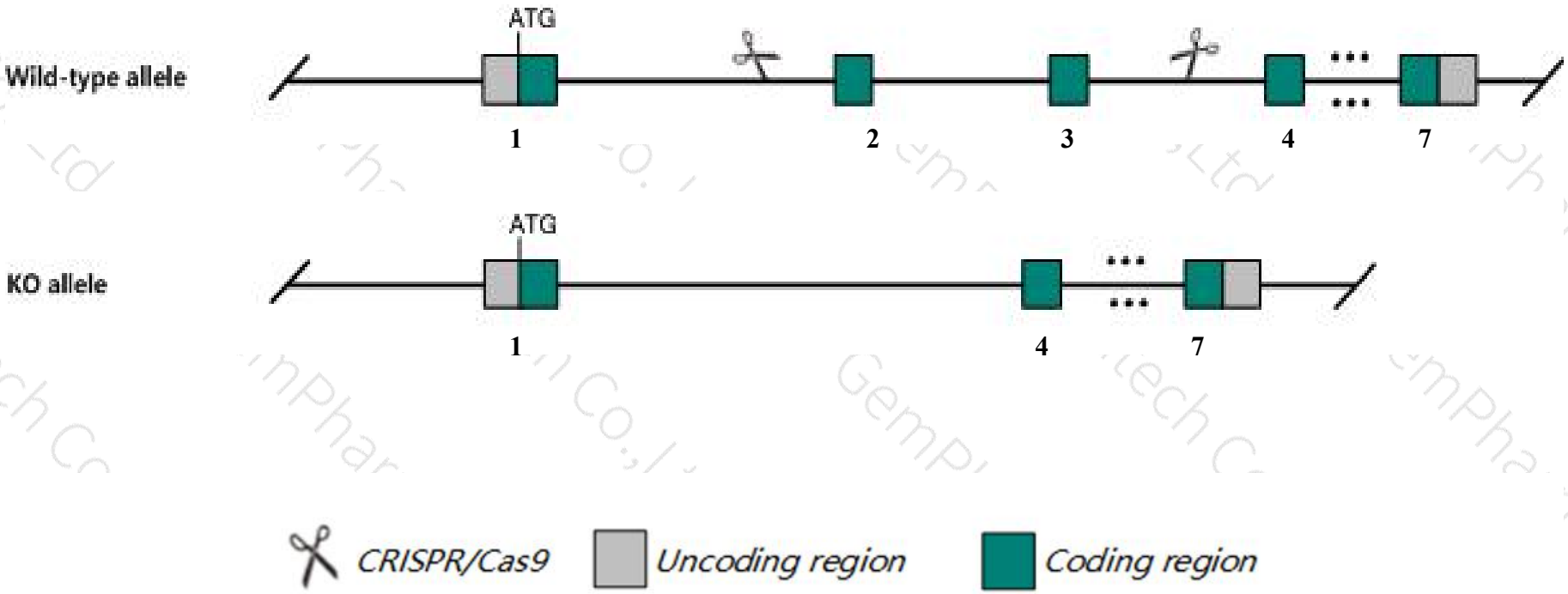
Designer: Huimin su

Project Overview

Project Name	***Ttc22***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ttc22* gene. The schematic diagram is as follows:



Technical routes

➢ The *Ttc22* gene has 2 transcripts. According to the structure of *Ttc22* gene, exon2-exon3 of *Ttc22-201* (ENSMUST00000047922.2) transcript is recommended as the knockout region. The region contains 172bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Ttc22* gene. The brief process is as follows: gRNA was transcribed in vitro.Cas9 and gRNA 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.

Notice

➢ The *Ttc22* gene is located on the Chr4. 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 gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information （NCBI）

集萃药康 GemPharmatech

Ttc22 tetratricopeptide repeat domain 22 [Mus musculus (house mouse)]

Gene ID: 230576, updated on 31-Jan-2019

Summary

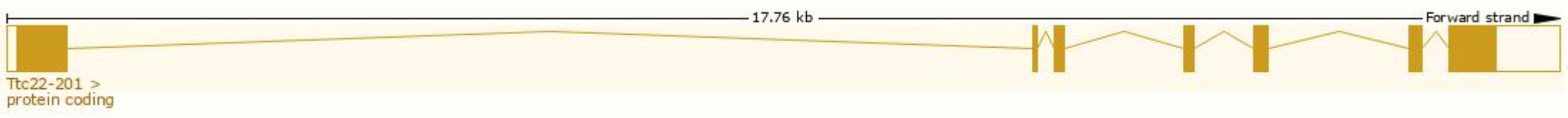
Official Symbol	Ttc22 provided by MGI
Official Full Name	tetratricopeptide repeat domain 22 provided by MGI
Primary source	MGI:MGI:3045307
See related	Ensembl:ENSMUSG00000034919
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4732467L16Rik
Expression	Biased expression in colon adult (RPKM 45.3), small intestine adult (RPKM 35.7) and 4 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

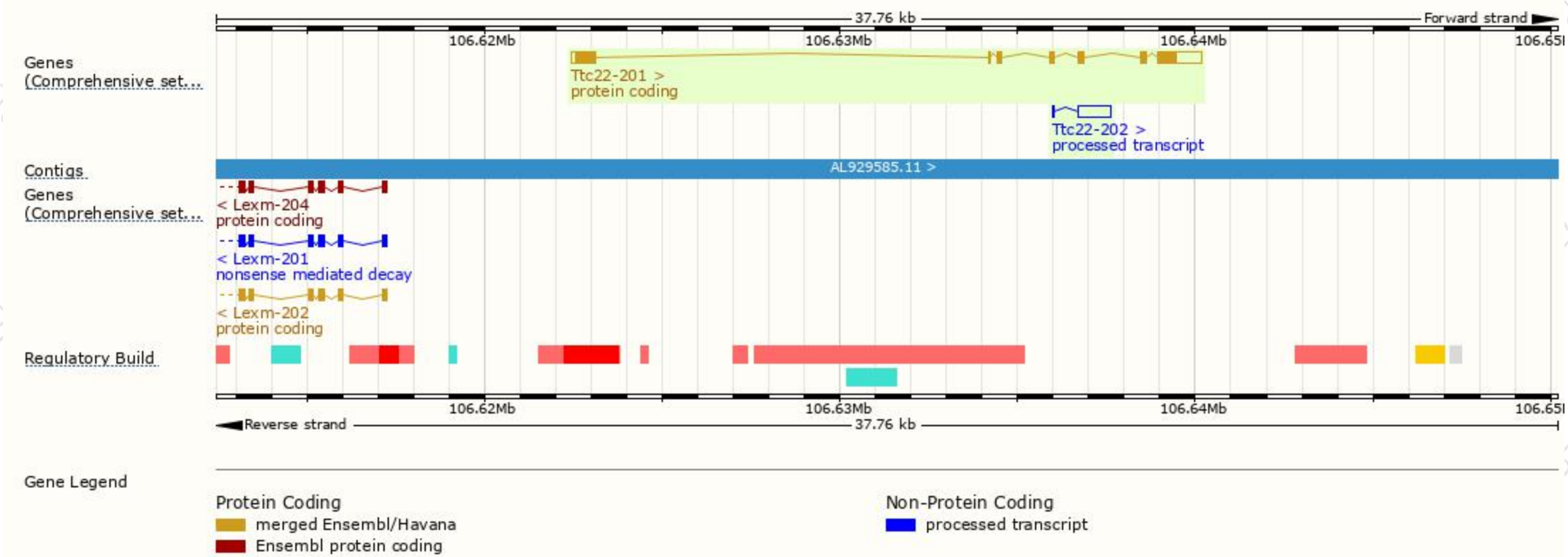
The gene has 2 transcripts, and all transcripts are shown below：

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ttc22-201	ENSMUST00000047922.2	2554	568aa	Protein coding	CCDS18422	A2AVQ6 Q8C159	TSL:1 GENCODE basic APPRIS P1
Ttc22-202	ENSMUST00000136505.1	965	No protein	Processed transcript	-	-	TSL:3

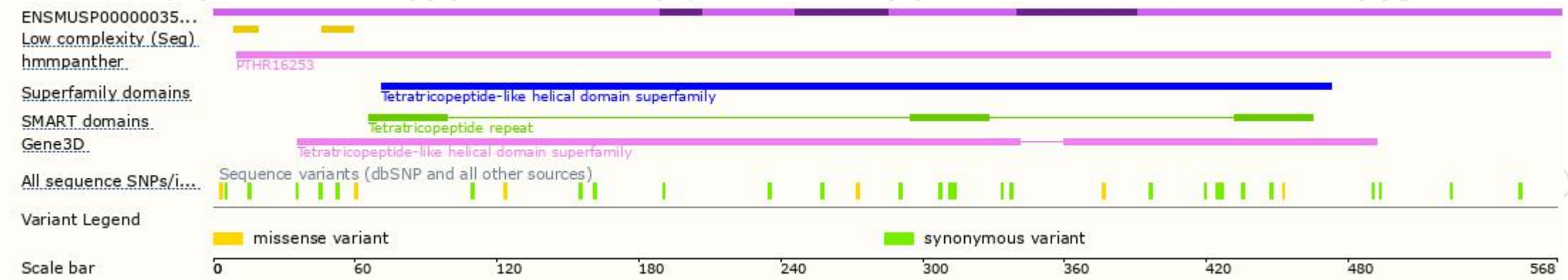
The strategy is based on the design of *Ttc22-201* transcript, the transcription is shown below



Genomic location distribution



Protein domain



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