

***Wdr75* Cas9-KO Strategy**

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Design Date: 2020-8-11

Project Overview

Project Name

Wdr75

Project type

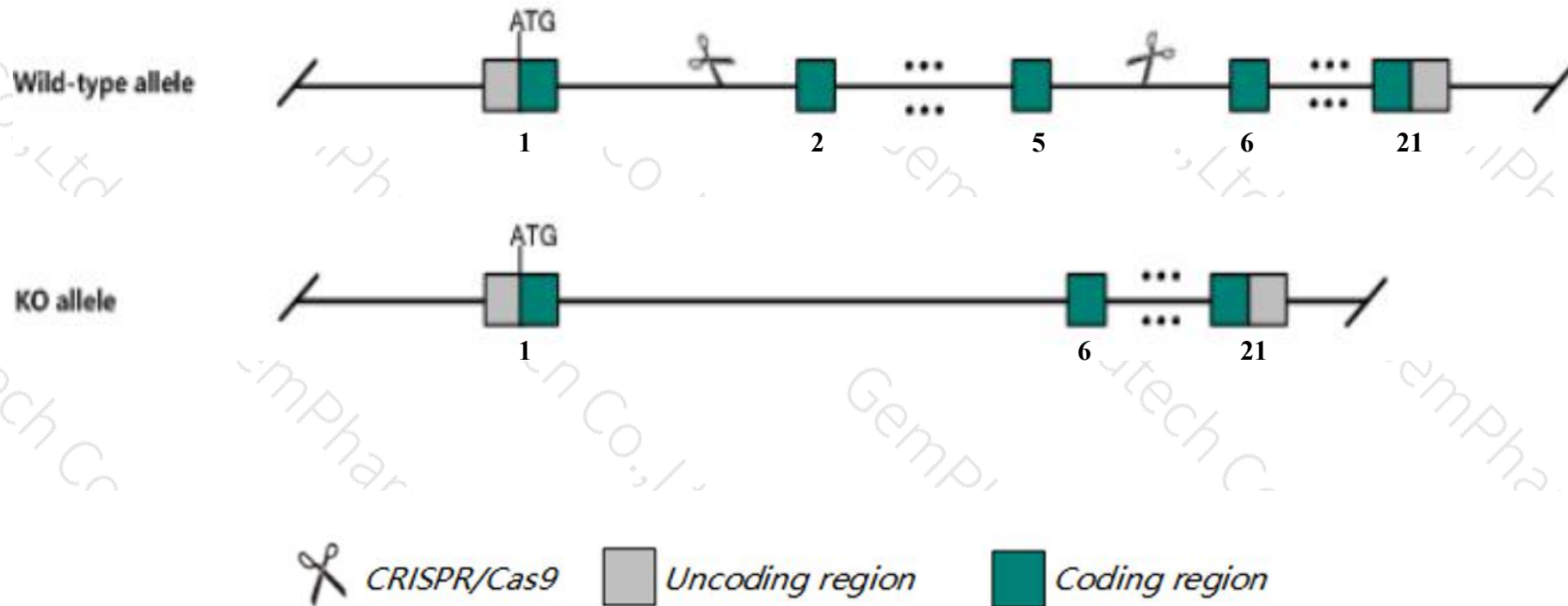
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wdr75* gene. The schematic diagram is as follows:



- The *Wdr75* gene has 9 transcripts. According to the structure of *Wdr75* gene, exon2-exon5 of *Wdr75*-201(ENSMUST00000027139.14) transcript is recommended as the knockout region. The region contains 412bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wdr75* gene. The brief process is as follows: CRISPR/Cas9 system 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.

- The *Wdr75* gene is located on the Chr1. 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.
- Transcript *Wdr75*-202&208 may not be affected.
- The effect on transcript *Wdr75*-206&209 is unknown.
- 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)

Wdr75 WD repeat domain 75 [Mus musculus (house mouse)]

Gene ID: 73674, updated on 13-Mar-2020

Summary



Official Symbol	Wdr75 provided by MGI
Official Full Name	WD repeat domain 75 provided by MGI
Primary source	MGI:MGI:1920924
See related	Ensembl:ENSMUSG00000025995
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	1300003A18Rik, 2410118I19Rik, C77608
Expression	Ubiquitous expression in CNS E11.5 (RPKM 11.4), limb E14.5 (RPKM 8.6) and 26 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

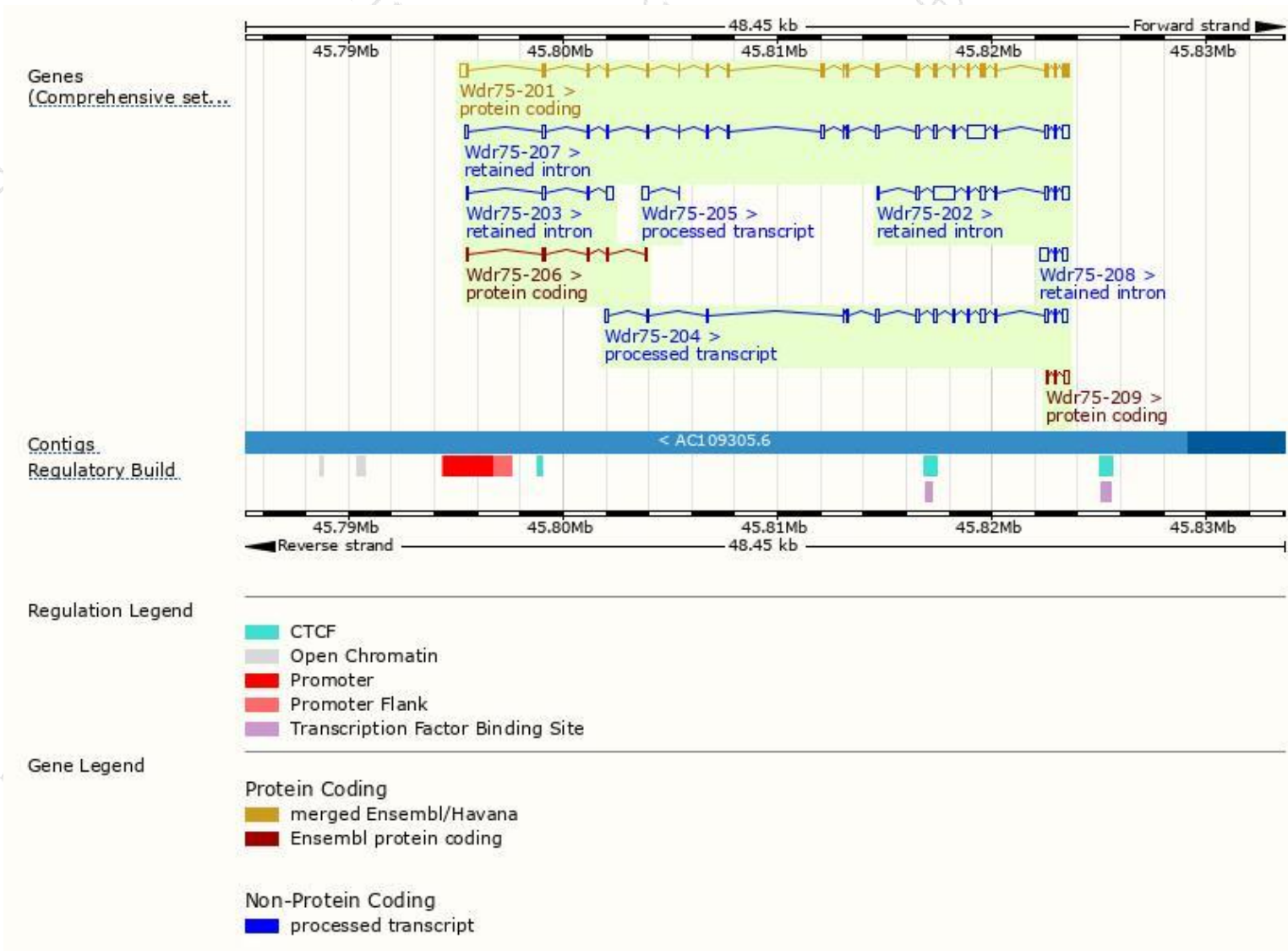
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wdr75-201	ENSMUST00000027139.14	2953	830aa	Protein coding	CCDS14932	Q3U821	TSL:1 GENCODE basic APPRIS P1
Wdr75-206	ENSMUST00000147308.1	468	151aa	Protein coding	-	D3Z504	CDS 3' incomplete TSL:2
Wdr75-209	ENSMUST00000186651.1	412	51aa	Protein coding	-	A0A087WQ22	CDS 5' incomplete TSL:3
Wdr75-204	ENSMUST00000143737.7	1945	No protein	Processed transcript	-	-	TSL:5
Wdr75-205	ENSMUST00000146602.1	387	No protein	Processed transcript	-	-	TSL:2
Wdr75-207	ENSMUST00000154436.7	3226	No protein	Retained intron	-	-	TSL:5
Wdr75-202	ENSMUST00000135662.7	2076	No protein	Retained intron	-	-	TSL:1
Wdr75-208	ENSMUST00000186308.1	628	No protein	Retained intron	-	-	TSL:1
Wdr75-203	ENSMUST00000142145.1	615	No protein	Retained intron	-	-	TSL:1

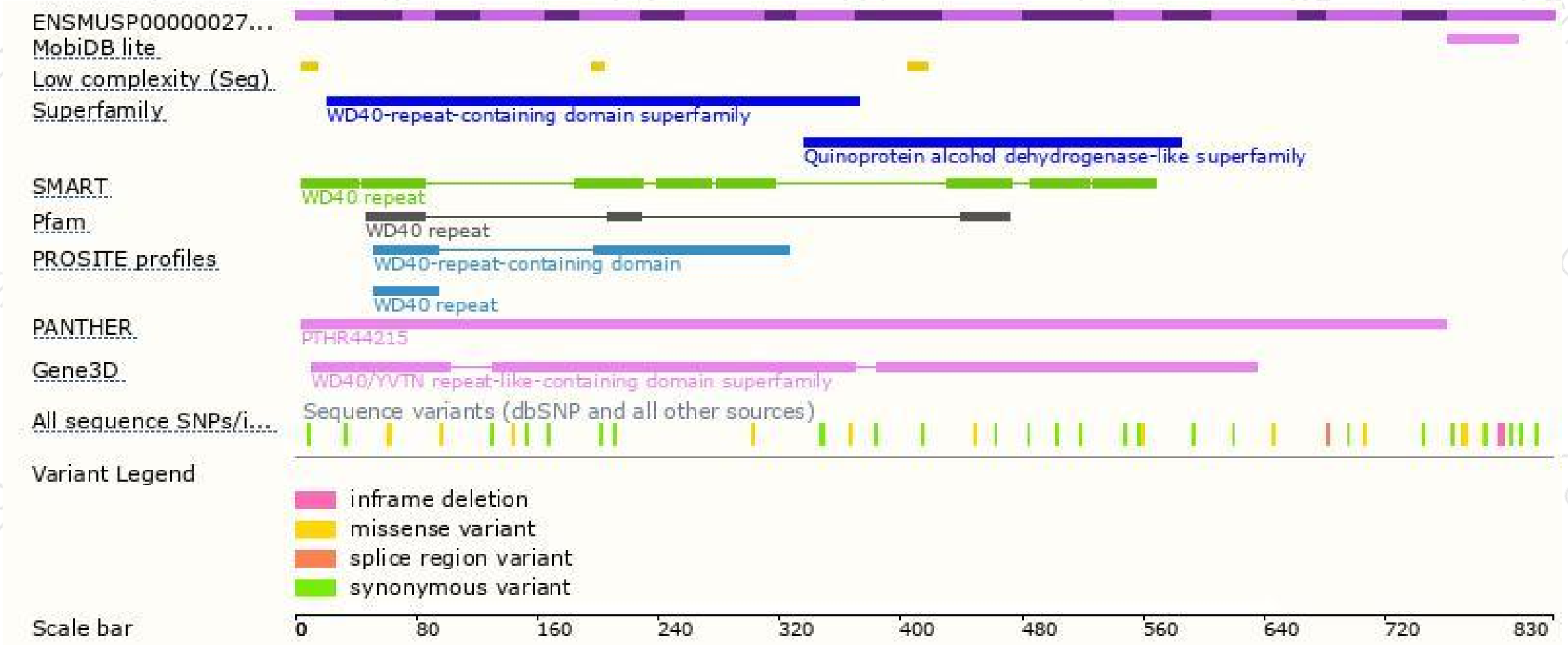
The strategy is based on the design of *Wdr75-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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