

Wdr93 Cas9-CKO Strategy

Designer:

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Design Date:

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Project Overview

Project Name

Wdr93

Project type

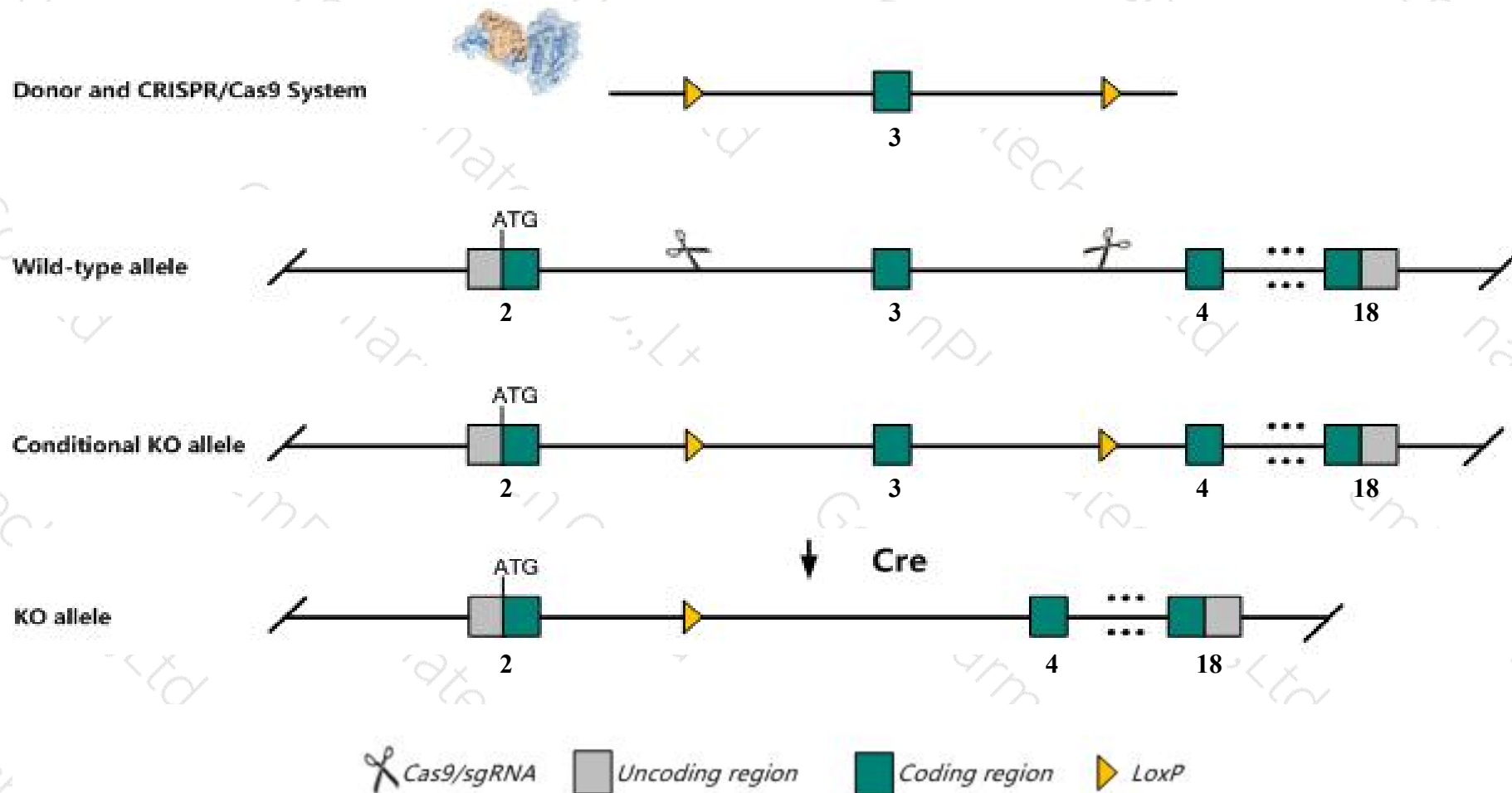
Cas9-CKO

Strain background

C57BL/6J

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wdr93* gene. The schematic diagram is as follows:



- The *Wdr93* gene has 1 transcript. According to the structure of *Wdr93* gene, exon3 of *Wdr93-201* (ENSMUST00000035622.7) transcript is recommended as the knockout region. The region contains 193bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wdr93* gene. The brief process is as follows: sgRNA was transcribed in vitro, donor vector was constructed. Cas9, sgRNA and Donor were microinjected into the fertilized eggs of C57BL/6J 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/6J mice.
- The flox mice was knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- The *Wdr93* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Wdr93 WD repeat domain 93 [Mus musculus (house mouse)]

Gene ID: 626359, updated on 31-Jan-2019

Summary



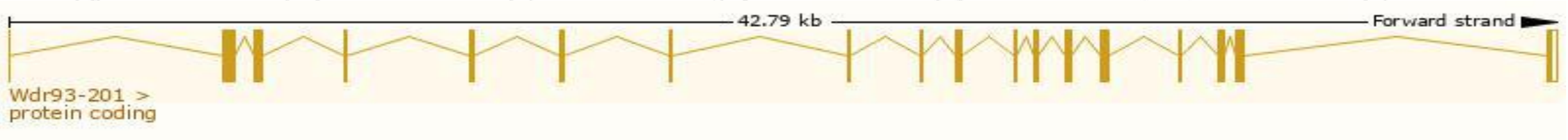
Official Symbol	Wdr93 provided by MGI
Official Full Name	WD repeat domain 93 provided by MGI
Primary source	MGI:MGI:3646885
See related	Ensembl:ENSMUSG00000039099
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	EG626359
Expression	Biased expression in testis adult (RPKM 11.5), subcutaneous fat pad adult (RPKM 1.7) and 3 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

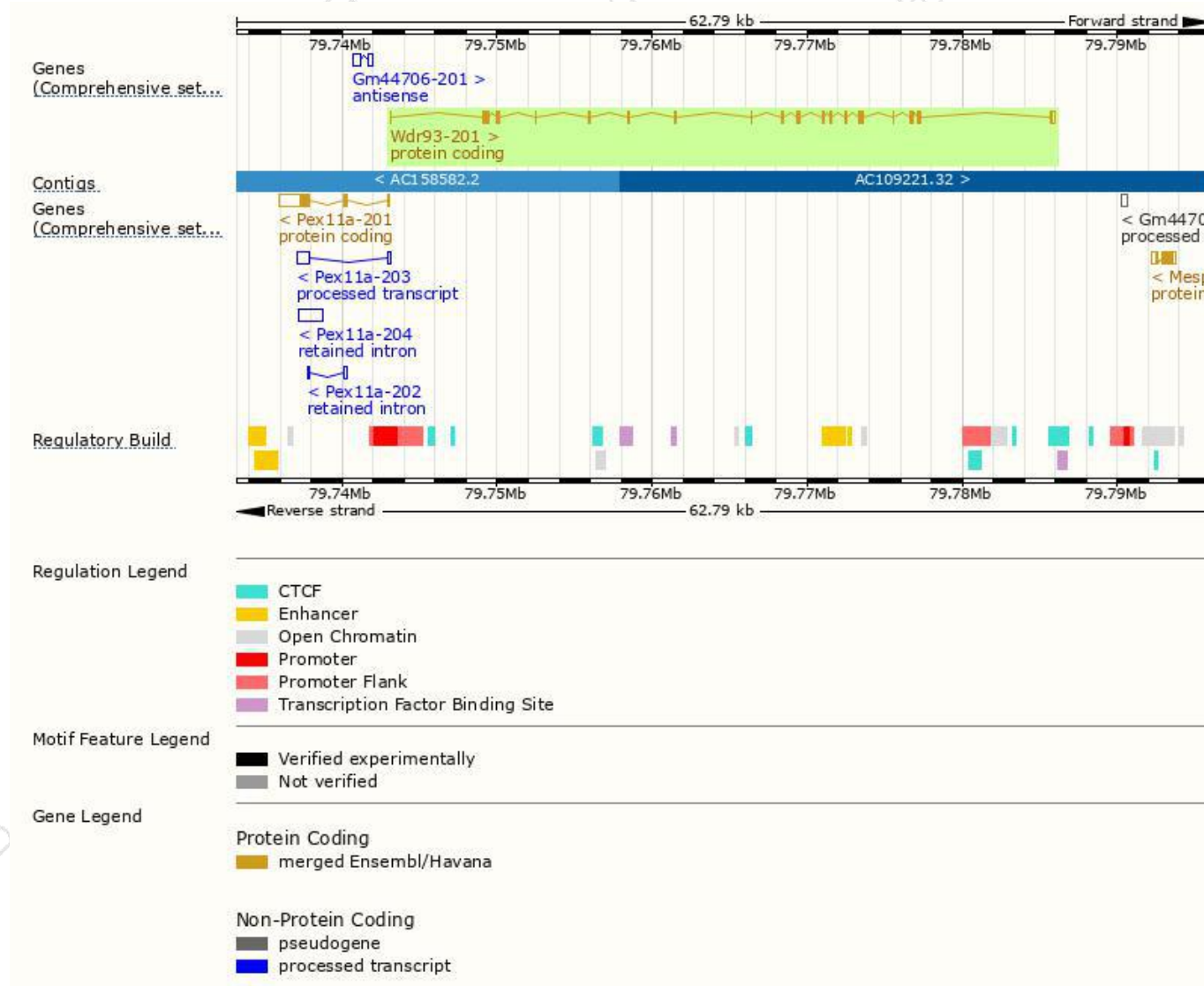
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wdr93-201	ENSMUST00000035622.7	2285	695aa	Protein coding	CCDS39992	Q402B2	TSL:1 GENCODE basic APPRIS P1

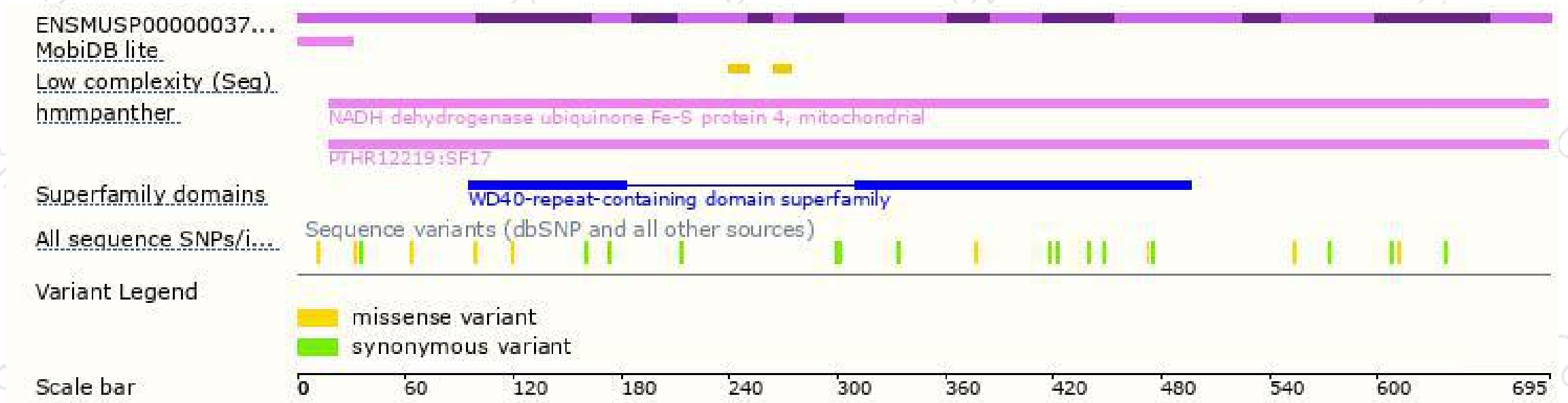
The strategy is based on the design of *Wdr93-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

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