

Wdr25 Cas9-KO Strategy

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Project Overview

Project Name

Wdr25

Project type

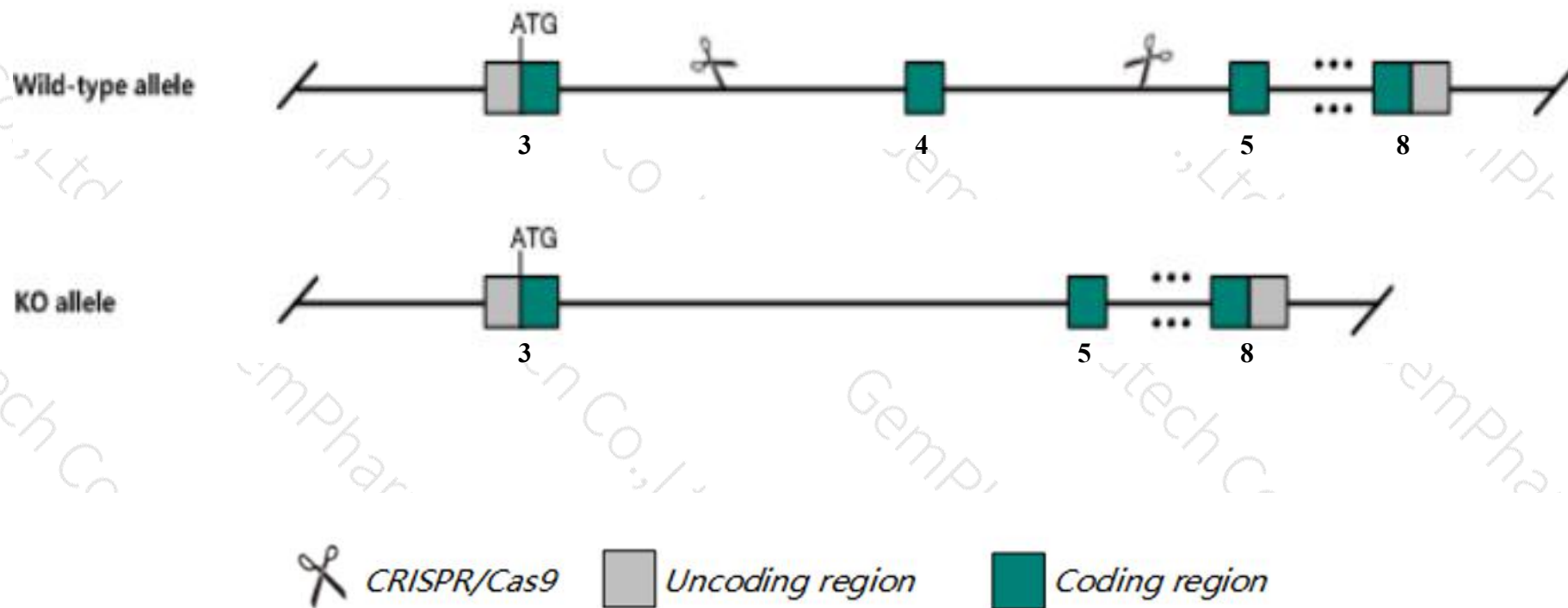
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wdr25* gene. The schematic diagram is as follows:



- The *Wdr25* gene has 7 transcripts. According to the structure of *Wdr25* gene, exon4 of *Wdr25-201*(ENSMUST00000047115.8) transcript is recommended as the knockout region. The region contains 148bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wdr25* 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.

- Transcript *Wdr25-204, Wdr25-205 and Wdr25-206* may not be affected.
- The *Wdr25* gene is located on the Chr12. 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)

Wdr25 WD repeat domain 25 [Mus musculus (house mouse)]

Gene ID: 212198, updated on 13-Mar-2020

Summary



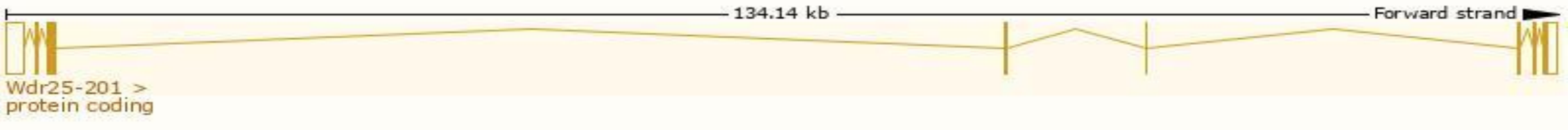
Official Symbol	Wdr25 provided by MGI
Official Full Name	WD repeat domain 25 provided by MGI
Primary source	MGI:MGI:3045255
See related	Ensembl:ENSMUSG00000040877
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	B930090D16Rik
Expression	Ubiquitous expression in genital fat pad adult (RPKM 3.5), testis adult (RPKM 1.8) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

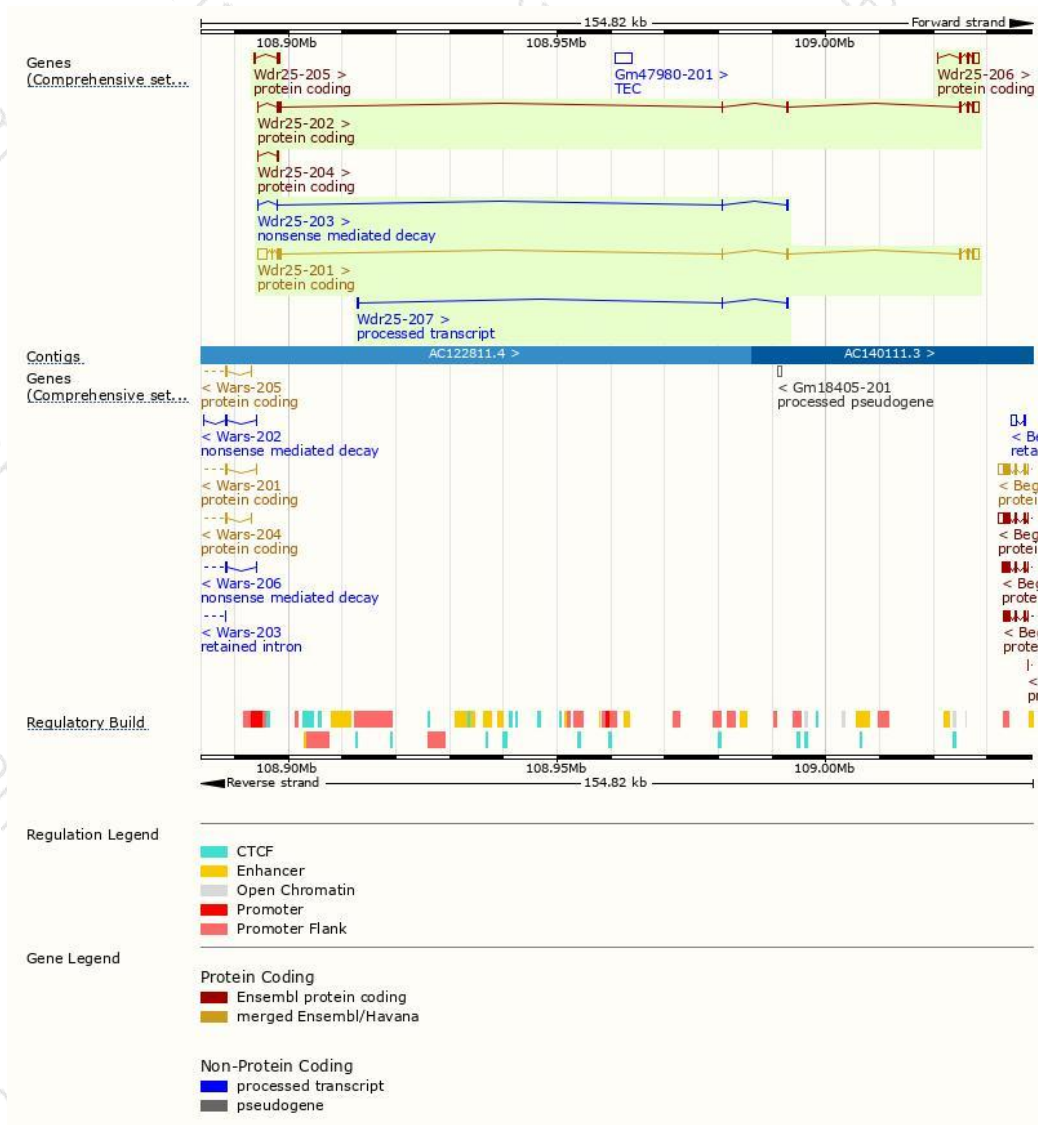
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wdr25-201	ENSMUST00000047115.8	4356	535aa	Protein coding	CCDS49172	E9Q349	TSL:1 GENCODE basic APPRIS P1
Wdr25-202	ENSMUST00000167816.7	2657	535aa	Protein coding	CCDS49172	E9Q349	TSL:5 GENCODE basic APPRIS P1
Wdr25-206	ENSMUST00000221510.1	1600	183aa	Protein coding	-	E9Q349	TSL:1 GENCODE basic
Wdr25-205	ENSMUST00000221377.1	578	144aa	Protein coding	-	A0A1Y7VP71	CDS 3' incomplete TSL:3
Wdr25-204	ENSMUST00000220667.1	352	90aa	Protein coding	-	A0A1Y7VKW6	CDS 3' incomplete TSL:2
Wdr25-203	ENSMUST00000220495.1	362	43aa	Nonsense mediated decay	-	A0A1Y7VMN7	TSL:3
Wdr25-207	ENSMUST00000223054.1	397	No protein	Processed transcript	-	-	TSL:3

The strategy is based on the design of *Wdr25-201* 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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