

Wdfy4 Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Wdfy4

Project type

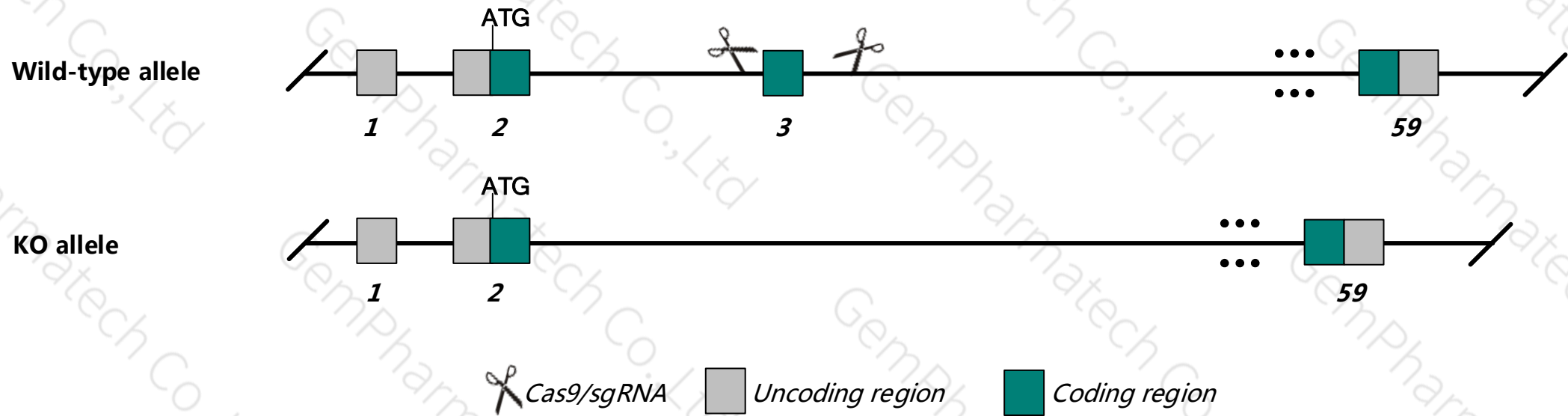
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wdfy4* gene. The schematic diagram is as follows:



Technical routes

- The *Wdfy4* gene has 4 transcripts. According to the structure of *Wdfy4* gene, exon3 of *Wdfy4*-201 (ENSMUST00000061753.14) transcript is recommended as the knockout region. The region contains 115bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wdfy4* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9, sgRNA 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 *Wdfy4-203, Wdfy4-204* may not be affected.
- The *Wdfy4* gene is located on the Chr14. 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)

Wdfy4 WD repeat and FYVE domain containing 4 [*Mus musculus* (house mouse)]

Gene ID: 545030, updated on 5-Aug-2018

Summary

Official Symbol Wdfy4 provided by MGI

Official Full Name WD repeat and FYVE domain containing 4 provided by MGI

Primary source [MGI:MGI:3584510](#)

See related [Ensembl:ENSMUSG000000051506](#) [Vega:OTTMUSG000000027929](#)

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 Gm18810

Expression Biased expression in spleen adult (RPKM 29.1), mammary gland adult (RPKM 6.4) and 4 other tissues [See more](#)

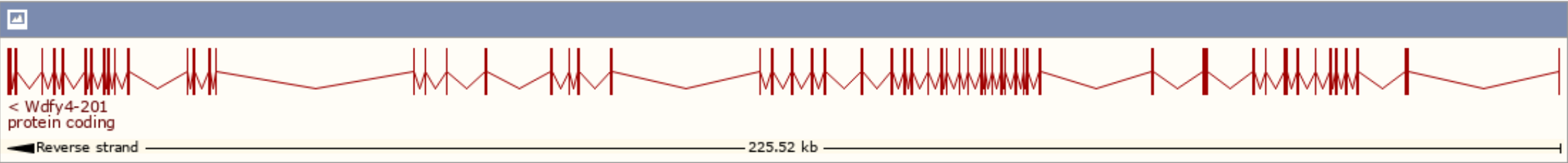
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

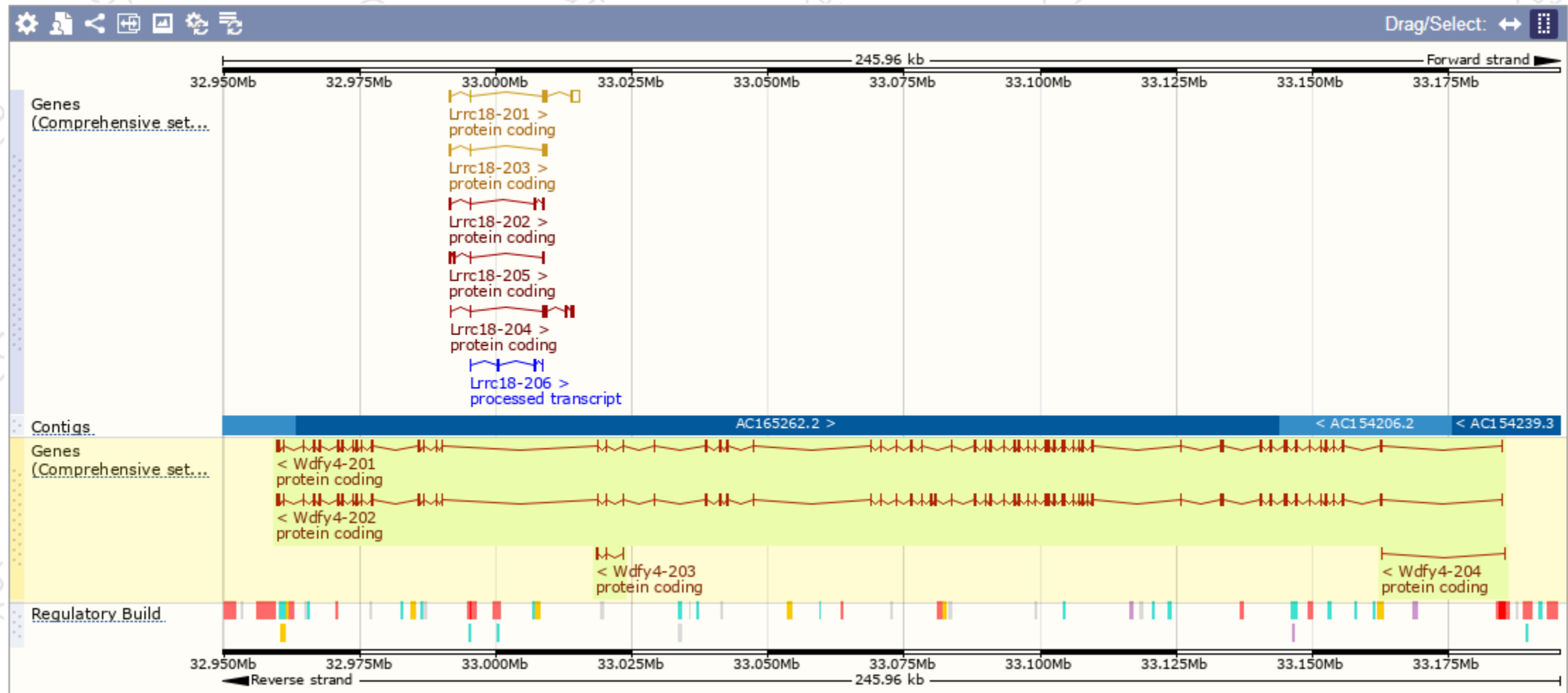
The gene has 4 transcripts, and all transcripts are shown below:

Show/hide columns (1 hidden)								Filter	
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	RefSeq	Flags	
Wdfy4-201	ENSMUST00000061753.14	9681	3024aa	Protein coding	CCDS49441	E9PV60	NM_001146022 NP_001139494	TSL:5	GENCODE basic APPRIS P2
Wdfy4-202	ENSMUST00000130509.9	10158	3183aa	Protein coding	-	E9Q2M9	-	TSL:5	GENCODE basic APPRIS ALT2
Wdfy4-203	ENSMUST00000132153.1	437	60aa	Protein coding	-	F6X8K3	-	CDS 5' incomplete	TSL:3
Wdfy4-204	ENSMUST00000159606.1	347	65aa	Protein coding	-	E0CXD5	-	CDS 3' incomplete	TSL:3

The strategy is based on the design of Wdfy4-201 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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