

Wdr26 Cas9-KO Strategy

Designer:

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Project Overview



Project Name

Wdr26

Project type

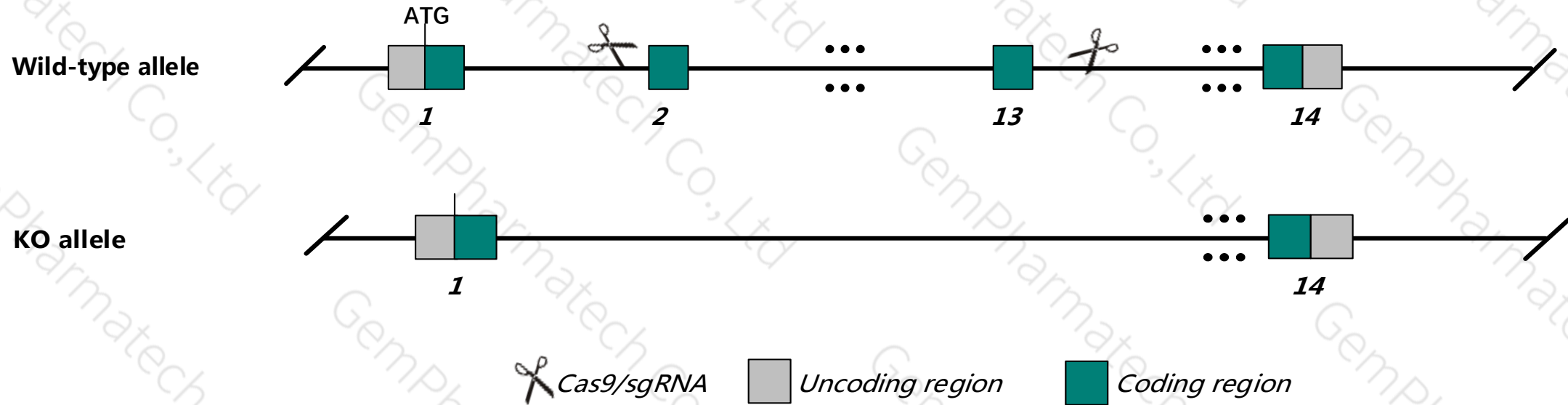
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wdr26* gene. The schematic diagram is as follows:



Technical routes

- The *Wdr26* gene has 9 transcripts. According to the structure of *Wdr26* gene, exon2-exon13 of *Wdr26*-207 transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wdr26* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and 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.

- The *Wdr26* 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.
- 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)

Wdr26 WD repeat domain 26 [*Mus musculus* (house mouse)]

Gene ID: 226757, updated on 15-Apr-2019

Summary

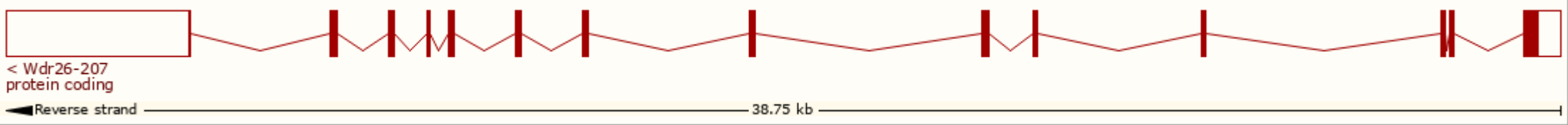
Official Symbol	Wdr26 provided by MGI
Official Full Name	WD repeat domain 26 provided by MGI
Primary source	MGI:MGI:1923825
See related	Ensembl:ENSMUSG00000038733
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Gid7; C77982; AA693241; AI447817; AU044014; 1600024A01Rik
Expression	Ubiquitous expression in liver E14 (RPKM 34.5), liver E14.5 (RPKM 31.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

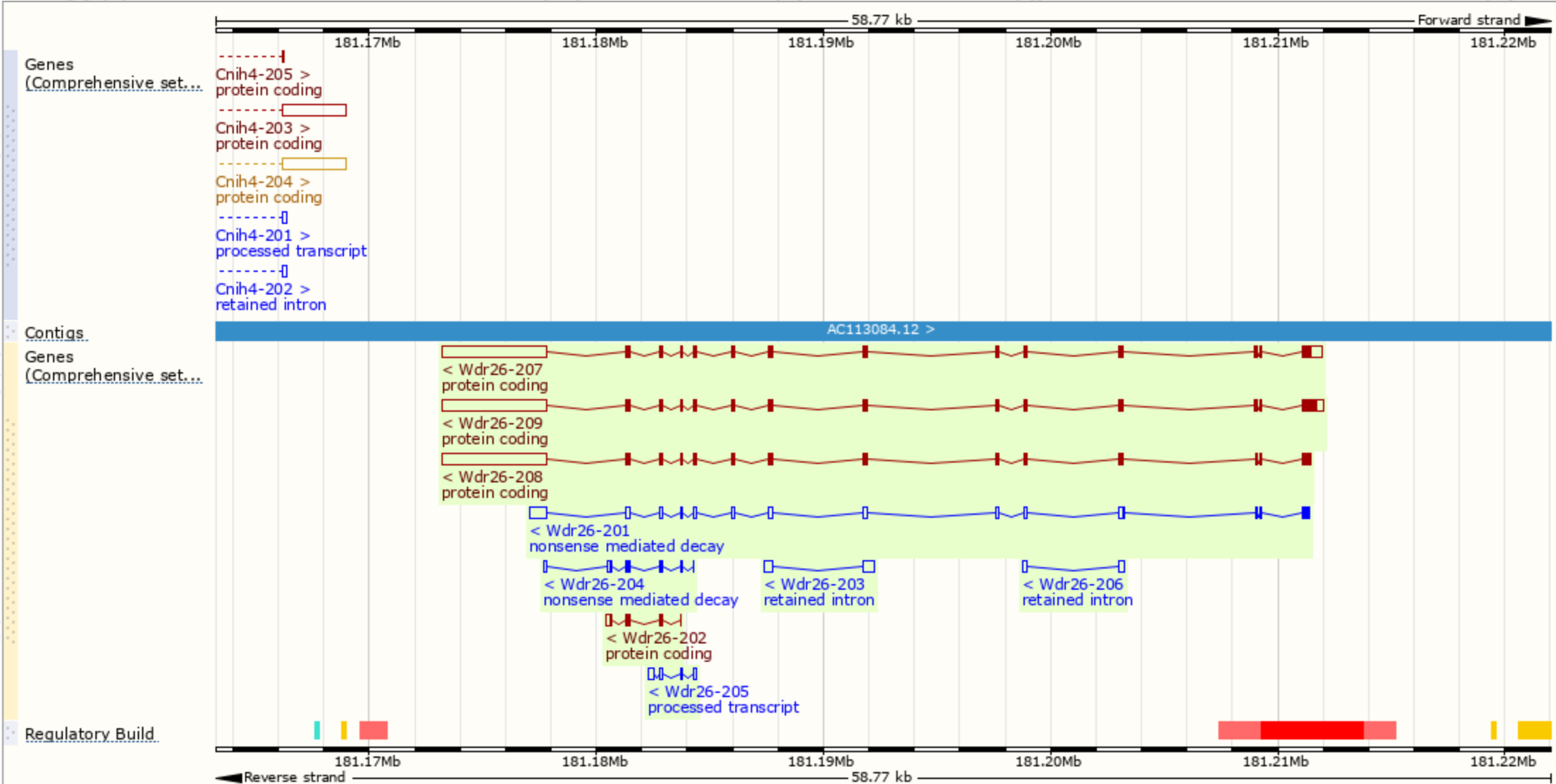
The gene has 9 transcripts, and all transcripts are shown below :

Show/hide columns (1 hidden)		Filter					
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wdr26-207	ENSMUST00000162819.8	7045	641aa	Protein coding	CCDS15583	Q8C6G8	TSL:1 GENCODE basic APPRIS P1
Wdr26-209	ENSMUST00000237749.1	7068	729aa	Protein coding	-	-	GENCODE basic
Wdr26-208	ENSMUST00000162963.7	6452	625aa	Protein coding	-	E0CYH4	CDS 5' incomplete TSL:5
Wdr26-202	ENSMUST00000159290.1	571	120aa	Protein coding	-	F6UT94	CDS 5' incomplete TSL:5
Wdr26-201	ENSMUST0000036329.11	2640	183aa	Nonsense mediated decay	-	F8WH48	CDS 5' incomplete TSL:5
Wdr26-204	ENSMUST00000159673.7	751	147aa	Nonsense mediated decay	-	F7DFQ2	CDS 5' incomplete TSL:5
Wdr26-205	ENSMUST00000159698.1	615	No protein	Processed transcript	-	-	TSL:5
Wdr26-203	ENSMUST00000159625.1	811	No protein	Retained intron	-	-	TSL:3
Wdr26-206	ENSMUST00000161531.1	431	No protein	Retained intron	-	-	TSL:3

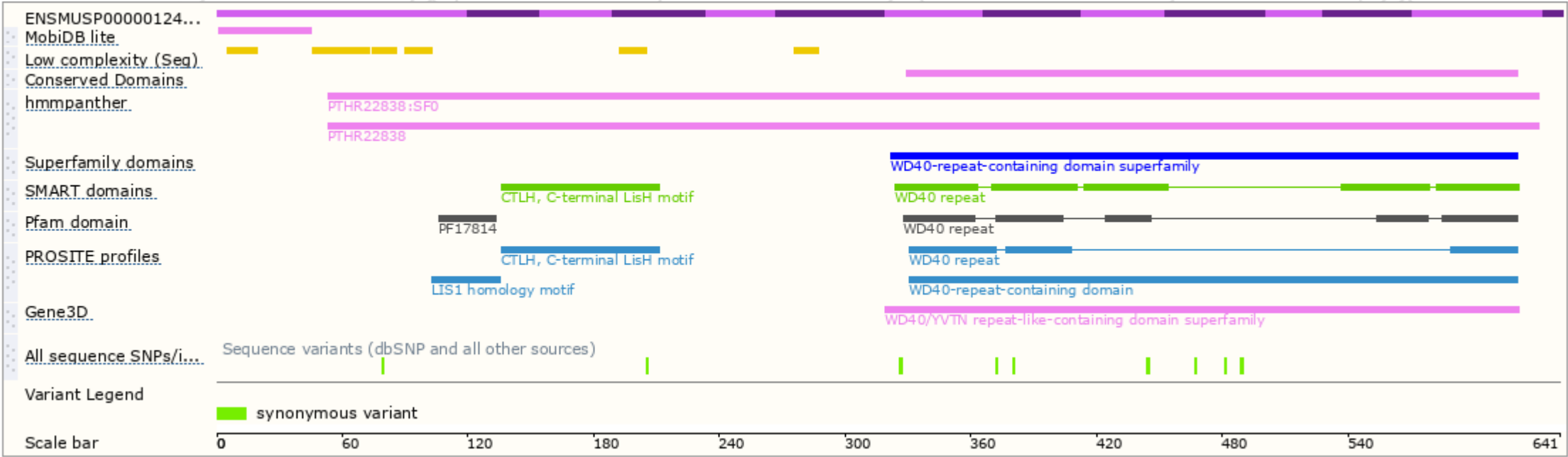
The strategy is based on the design of Wdr26-207 transcript,The transcription is shown below



Genomic location distribution



Protein domain



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