

Wsb1 Cas9-CKO Strategy

Designer:

Huan Fan

Design Date:

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Project Overview

Project Name

Wsb1

Project type

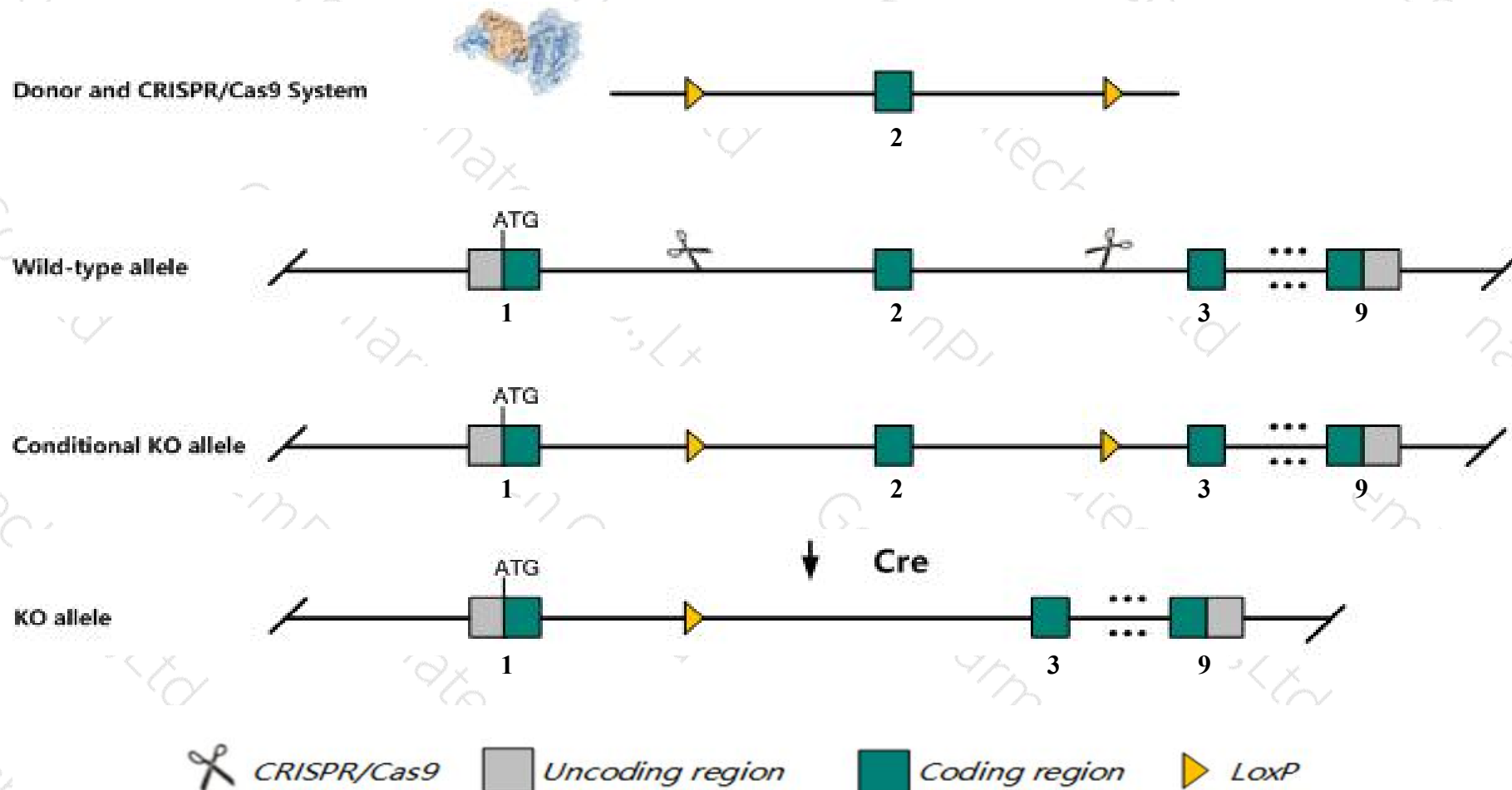
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wsb1* gene. The schematic diagram is as follows:



- The *Wsb1* gene has 7 transcripts. According to the structure of *Wsb1* gene, exon2 of *Wsb1-201* (ENSMUST00000017821.11) transcript is recommended as the knockout region. The region contains 169bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wsb1* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be 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.

Notice

- The *Wsb1* gene is located on the Chr11. 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)

Wsb1 WD repeat and SOCS box-containing 1 [Mus musculus (house mouse)]

Gene ID: 78889, updated on 3-Feb-2019

Summary



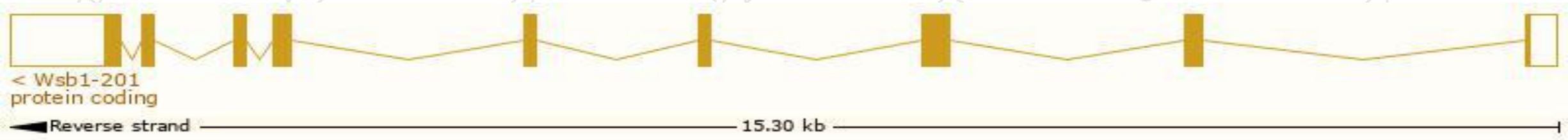
Official Symbol	Wsb1 provided by MGI
Official Full Name	WD repeat and SOCS box-containing 1 provided by MGI
Primary source	MGI:MGI:1926139
See related	Ensembl:ENSMUSG00000017677
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110056B13Rik, 2700038M07Rik
Expression	Broad expression in whole brain E14.5 (RPKM 127.9), CNS E14 (RPKM 125.2) and 21 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

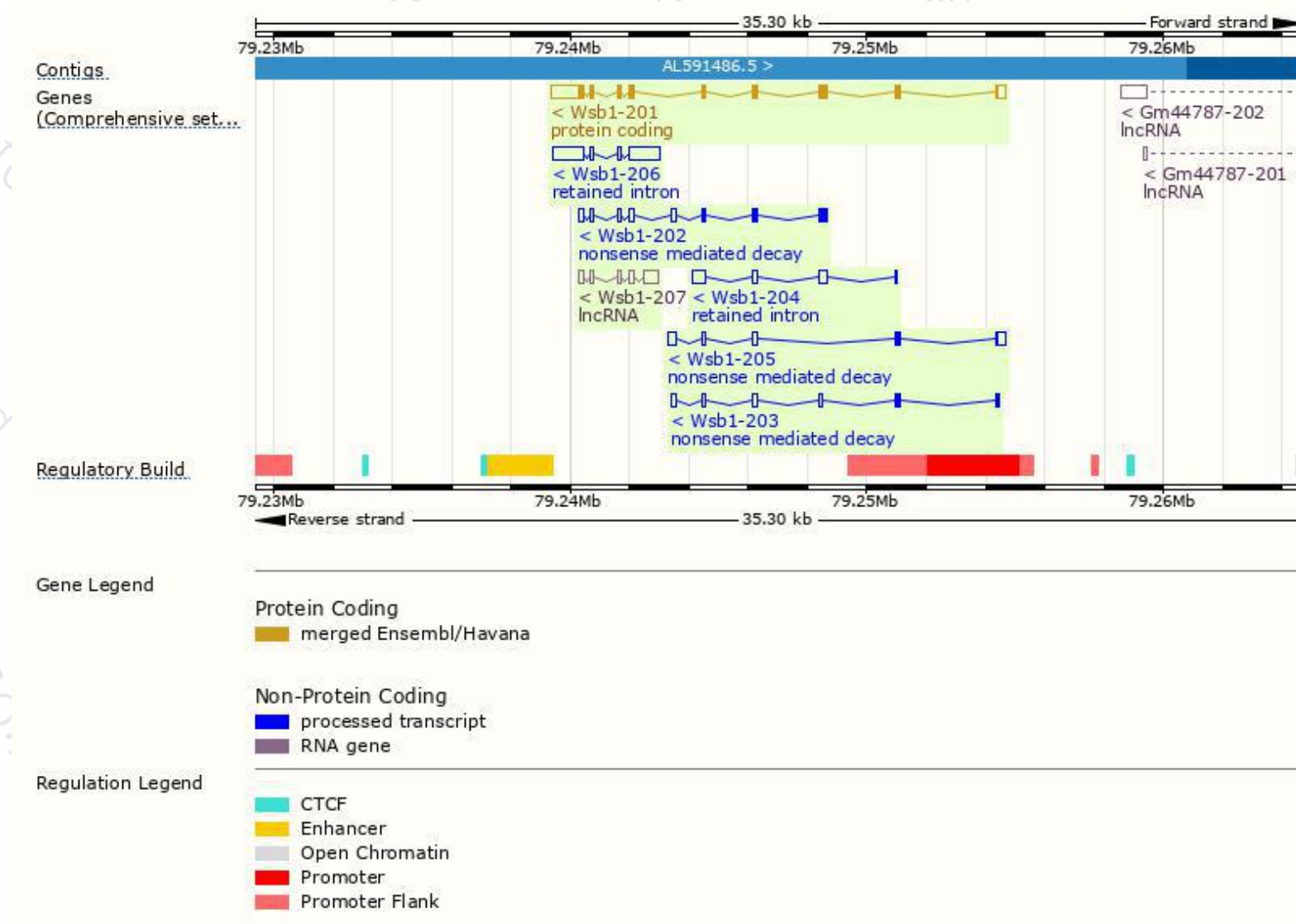
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wsb1-201	ENSMUST00000017821.11	2476	421aa	Protein coding	CCDS25118	O54927 Q3TFQ2	TSL:1 GENCODE basic APPRIS P1
Wsb1-202	ENSMUST00000131818.7	1260	175aa	Nonsense mediated decay	-	F6ZUJ8	CDS 5' incomplete TSL:5
Wsb1-205	ENSMUST00000145772.7	1007	74aa	Nonsense mediated decay	-	M0QWT9	TSL:3
Wsb1-203	ENSMUST00000131848.7	819	78aa	Nonsense mediated decay	-	E9Q647	TSL:3
Wsb1-206	ENSMUST00000150416.7	2338	No protein	Retained intron	-	-	TSL:1
Wsb1-204	ENSMUST00000137890.1	901	No protein	Retained intron	-	-	TSL:2
Wsb1-207	ENSMUST00000153585.1	1002	No protein	lncRNA	-	-	TSL:3

The strategy is based on the design of *Wsb1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain

ENSMUSP00000017...

[Superfamily](#)

[SMART](#)

[Prints](#)

[Pfam](#)

[PROSITE profiles](#)

[PROSITE patterns](#)

[PANTHER](#)

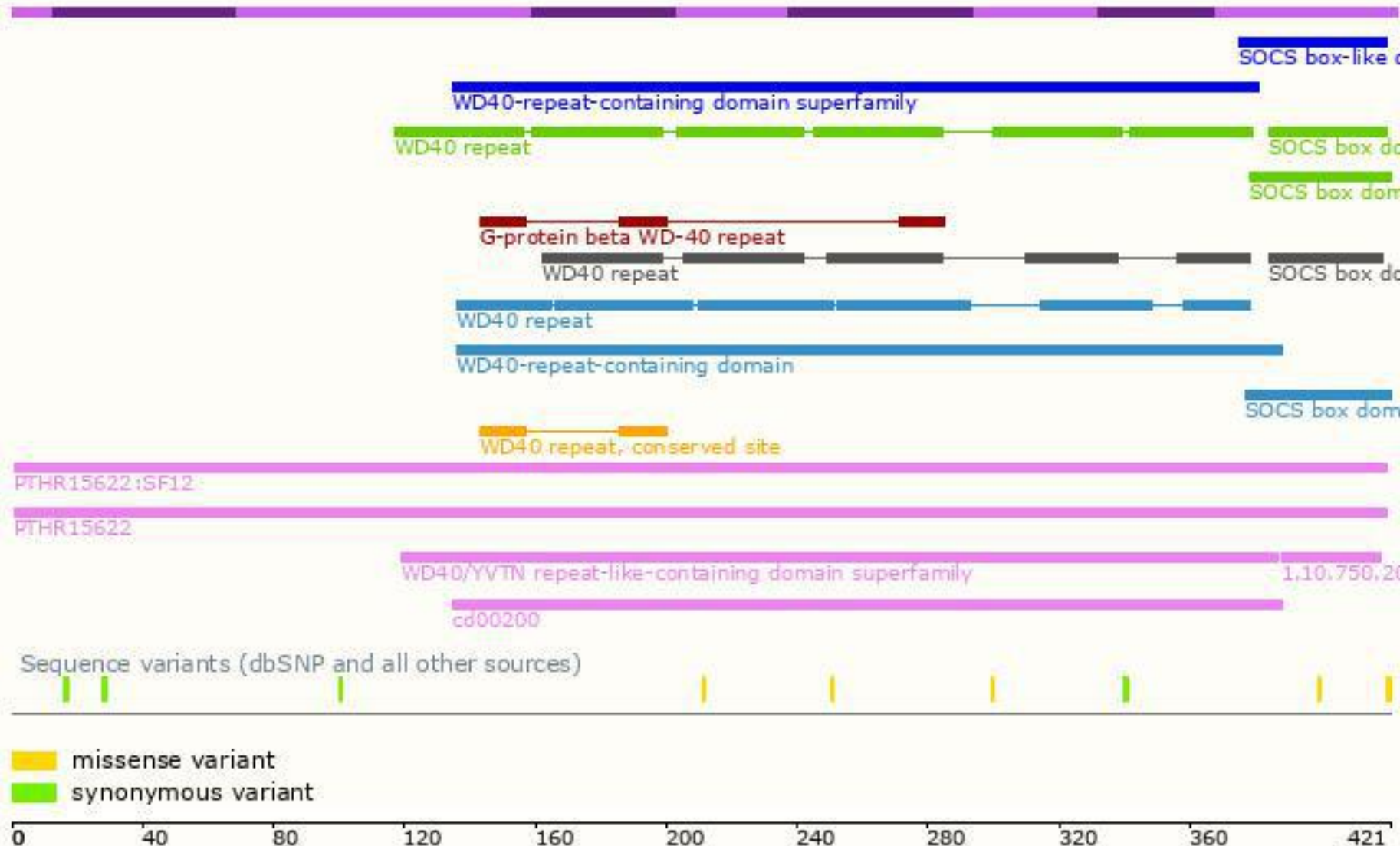
[Gene3D](#)

[CDD](#)

[All sequence SNPs/i....](#)

[Variant Legend](#)

[Scale bar](#)



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

Tel: 400-9660890

