

Ssbp4 Cas9-KO Strategy

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Project Overview



Project Name

Ssbp4

Project type

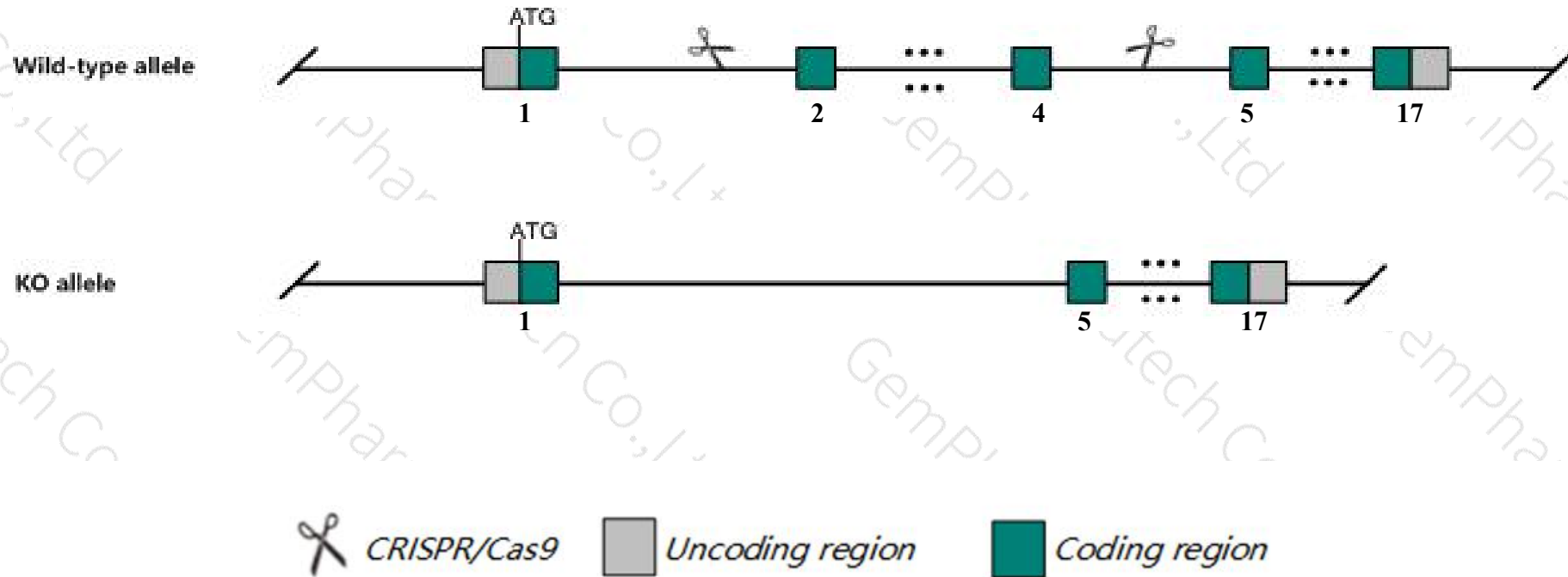
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ssbp4* gene. The schematic diagram is as follows:



- The *Ssbp4* gene has 15 transcripts. According to the structure of *Ssbp4* gene, exon2-exon4 of *Ssbp4-201* (ENSMUST00000049908.10) transcript is recommended as the knockout region. The region contains 220bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ssbp4* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

- Transcript *Ssbp4*-202&203&204&206&208&214 may not be affected .
- The knockout region is near to the N-terminal of *Gm45546* gene,this strategy may influence the regulatory function of the N-terminal of *Gm45546* gene.
- The *Ssbp4* gene is located on the Chr8. 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)

Ssbp4 single stranded DNA binding protein 4 [Mus musculus (house mouse)]

Gene ID: 76900, updated on 31-Jan-2019

Summary



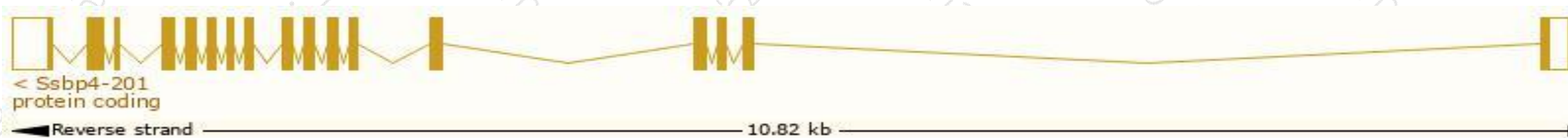
Official Symbol	Ssbp4 provided by MGI
Official Full Name	single stranded DNA binding protein 4 provided by MGI
Primary source	MGI:MGI:1924150
See related	Ensembl:ENSMUSG00000070003
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1210002E11Rik, AW743380, Sspb4
Expression	Ubiquitous expression in adrenal adult (RPKM 126.2), ovary adult (RPKM 102.6) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

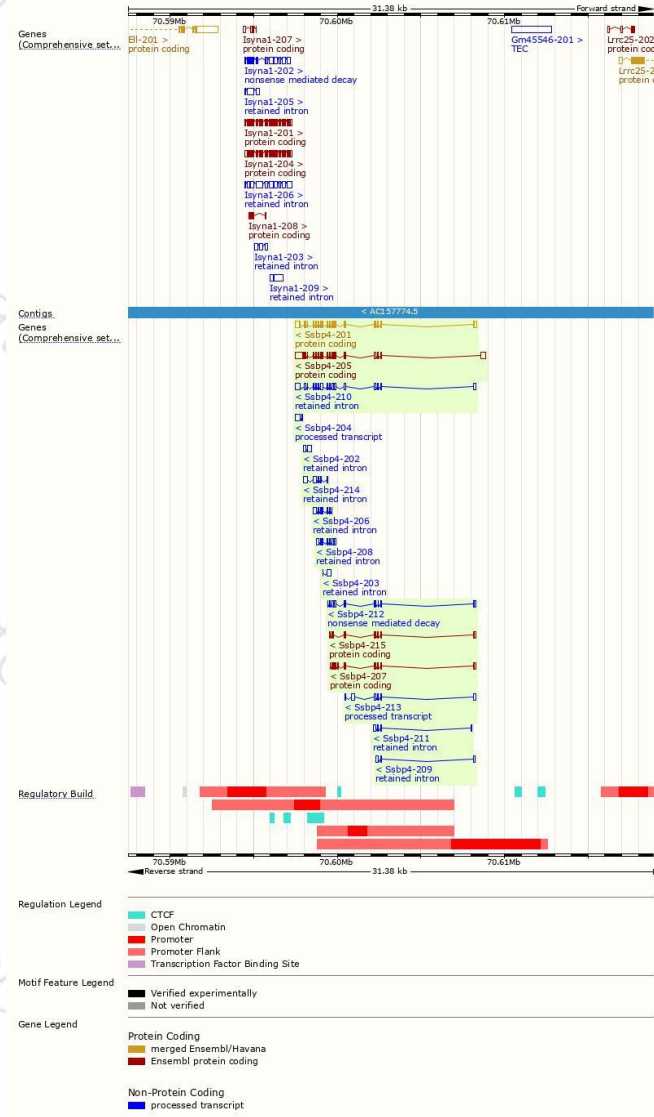
The gene has 15 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ssbp4-201	ENSMUST00000049908.10	1475	363aa	Protein coding	CCDS22374	Q3U4B1	TSL:1 GENCODE basic APPRIS P1
Ssbp4-205	ENSMUST00000210369.1	1828	286aa	Protein coding	-	A0A1B0GRX5	TSL:2 GENCODE basic
Ssbp4-207	ENSMUST00000210580.1	711	196aa	Protein coding	-	A0A1B0GT95	CDS 3' incomplete TSL:5
Ssbp4-215	ENSMUST00000211608.1	626	164aa	Protein coding	-	A0A1B0GRM9	CDS 3' incomplete TSL:3
Ssbp4-212	ENSMUST00000211197.1	655	89aa	Nonsense mediated decay	-	A0A1B0GRS0	TSL:3
Ssbp4-213	ENSMUST00000211268.1	611	No protein	Processed transcript	-	-	TSL:5
Ssbp4-204	ENSMUST00000210305.1	299	No protein	Processed transcript	-	-	TSL:2
Ssbp4-210	ENSMUST00000211134.1	1549	No protein	Retained intron	-	-	TSL:1
Ssbp4-214	ENSMUST00000211488.1	637	No protein	Retained intron	-	-	TSL:3
Ssbp4-208	ENSMUST00000210699.1	505	No protein	Retained intron	-	-	TSL:3
Ssbp4-206	ENSMUST00000210382.1	502	No protein	Retained intron	-	-	TSL:5
Ssbp4-202	ENSMUST00000209430.1	416	No protein	Retained intron	-	-	TSL:2
Ssbp4-209	ENSMUST00000210756.1	346	No protein	Retained intron	-	-	TSL:2
Ssbp4-211	ENSMUST00000211153.1	340	No protein	Retained intron	-	-	TSL:3
Ssbp4-203	ENSMUST00000210006.1	272	No protein	Retained intron	-	-	TSL:1

The strategy is based on the design of *Ssbp4-201* 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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