

Shisa5 Cas9-CKO Strategy

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Project Overview

Project Name

Shisa5

Project type

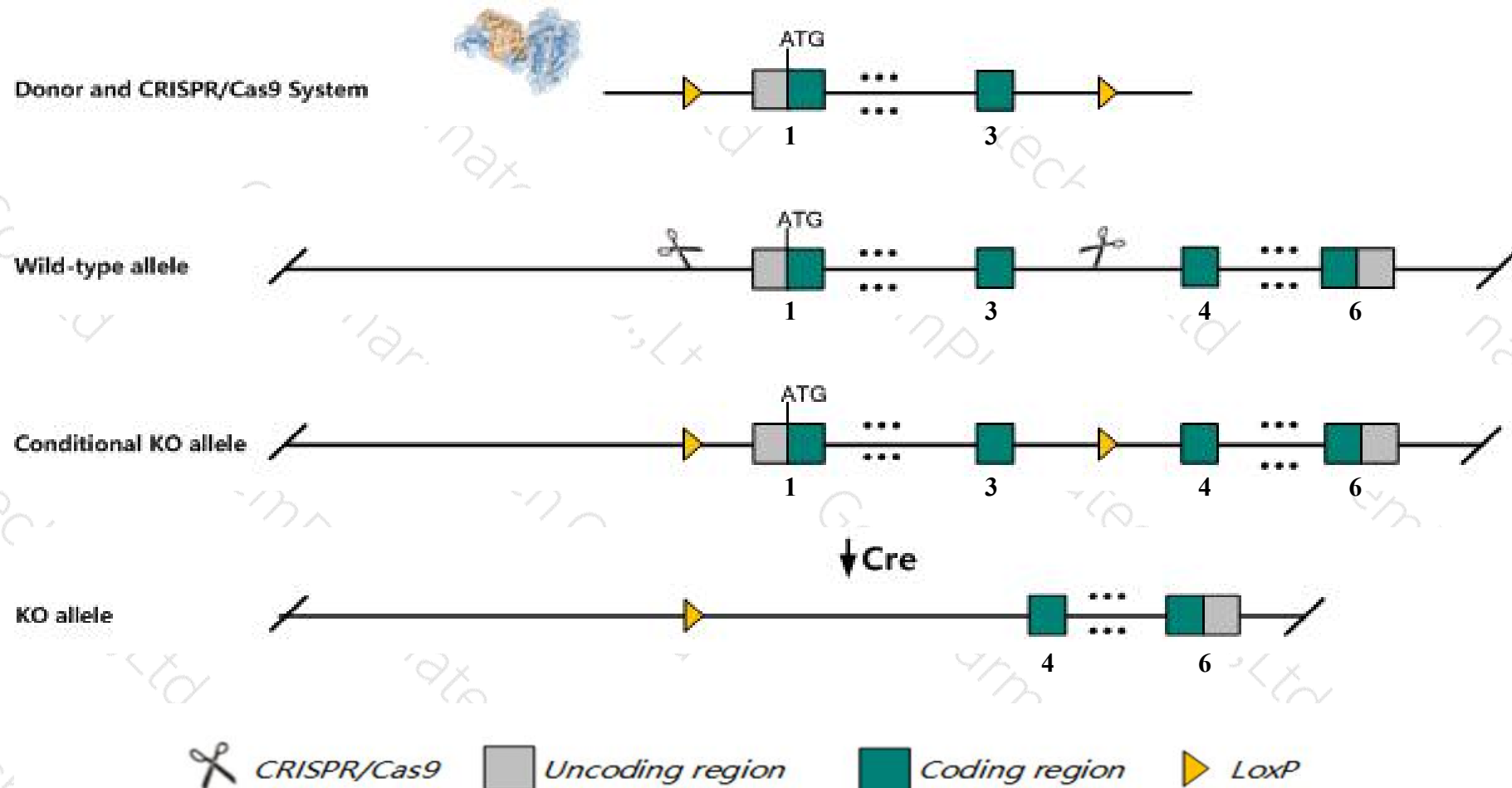
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Shisa5* gene. The schematic diagram is as follows:



Technical routes

- The *Shisa5* gene has 19 transcripts. According to the structure of *Shisa5* gene, exon1-exon3 of *Shisa5*-202 (ENSMUST00000112059.9) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Shisa5* 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

- According to the existing MGI data, Mice homozygous for a knock-out allele are viable, fertile and exhibit no apparent phenotype.
- The *Shisa5* gene is located on the Chr9. 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)

Shisa5 shisa family member 5 [Mus musculus (house mouse)]

Gene ID: 66940, updated on 31-Jan-2019

Summary



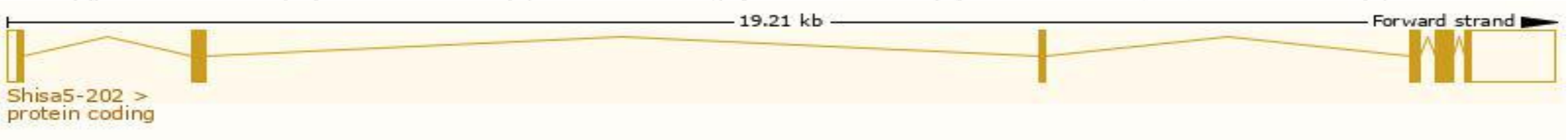
Official Symbol	Shisa5 provided by MGI
Official Full Name	shisa family member 5 provided by MGI
Primary source	MGI:MGI:1915044
See related	Ensembl:ENSMUSG00000025647
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2310008D10Rik, 6430628I05Rik, Scotin, mShisa5
Expression	Biased expression in spleen adult (RPKM 466.2), mammary gland adult (RPKM 229.2) and 14 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

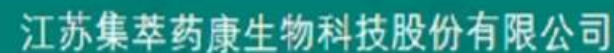
The gene has 19 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Shisa5-202	ENSMUST00000112059.9	1910	236aa	Protein coding	CCDS72309	Q9D7I0	TSL:1 GENCODE basic APPRIS ALT2
Shisa5-201	ENSMUST00000026737.11	1834	235aa	Protein coding	CCDS23543	Q9D7I0	TSL:1 GENCODE basic APPRIS P3
Shisa5-203	ENSMUST00000154184.4	1038	132aa	Protein coding	CCDS40771	Q9D7I0	TSL:1 GENCODE basic
Shisa5-218	ENSMUST00000200515.4	1005	171aa	Protein coding	-	Q9D7I0	TSL:1 GENCODE basic
Shisa5-204	ENSMUST00000196954.4	843	133aa	Protein coding	-	A0A0G2JGK4	TSL:3 GENCODE basic
Shisa5-214	ENSMUST00000198708.4	771	133aa	Protein coding	-	A0A0G2JGK4	TSL:5 GENCODE basic
Shisa5-205	ENSMUST00000197099.4	742	167aa	Protein coding	-	A0A0G2JGP8	TSL:3 GENCODE basic
Shisa5-216	ENSMUST00000199868.4	563	137aa	Protein coding	-	A0A0G2JER0	CDS 5' incomplete TSL:1
Shisa5-207	ENSMUST00000197483.4	534	133aa	Protein coding	-	A0A0G2JGK4	TSL:3 GENCODE basic
Shisa5-209	ENSMUST00000198281.1	445	73aa	Protein coding	-	A0A0G2JGI8	CDS 3' incomplete TSL:5
Shisa5-219	ENSMUST00000200629.4	369	72aa	Protein coding	-	A0A0G2JDK5	CDS 3' incomplete TSL:2
Shisa5-210	ENSMUST00000198295.4	366	70aa	Protein coding	-	A0A0G2JGW1	CDS 3' incomplete TSL:3
Shisa5-211	ENSMUST00000198376.4	365	83aa	Protein coding	-	A0A0G2JG03	CDS 3' incomplete TSL:2
Shisa5-208	ENSMUST00000197689.4	347	63aa	Protein coding	-	A0A0G2JER5	CDS 3' incomplete TSL:5
Shisa5-217	ENSMUST00000200366.4	697	No protein	Processed transcript	-	-	TSL:2
Shisa5-212	ENSMUST00000198591.4	515	No protein	Processed transcript	-	-	TSL:2
Shisa5-206	ENSMUST00000197194.1	389	No protein	Processed transcript	-	-	TSL:3
Shisa5-213	ENSMUST00000198639.1	2010	No protein	Retained intron	-	-	TSL:1
Shisa5-215	ENSMUST00000199288.1	343	No protein	Retained intron	-	-	TSL:3

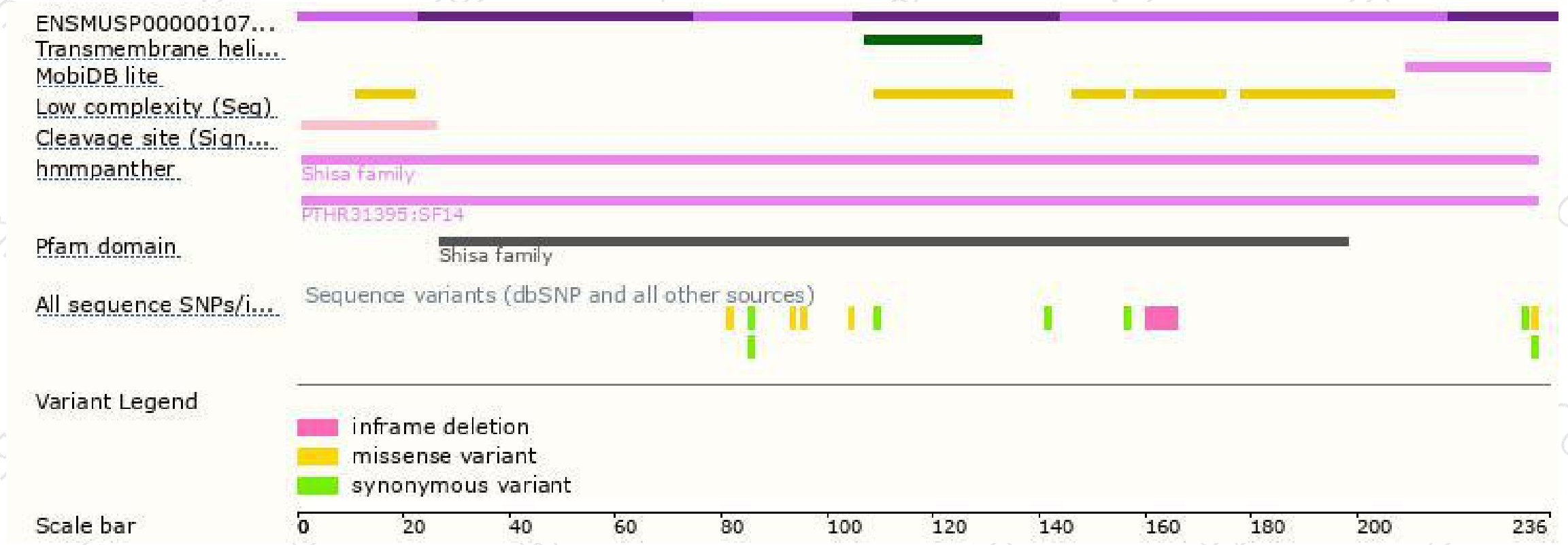
The strategy is based on the design of *Shisa5-202* transcript,The transcription is shown below



集萃药康
GemPharmatech



Protein domain



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

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