

S100a16 Cas9-KO Strategy

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Project Overview

Project Name

S100a16

Project type

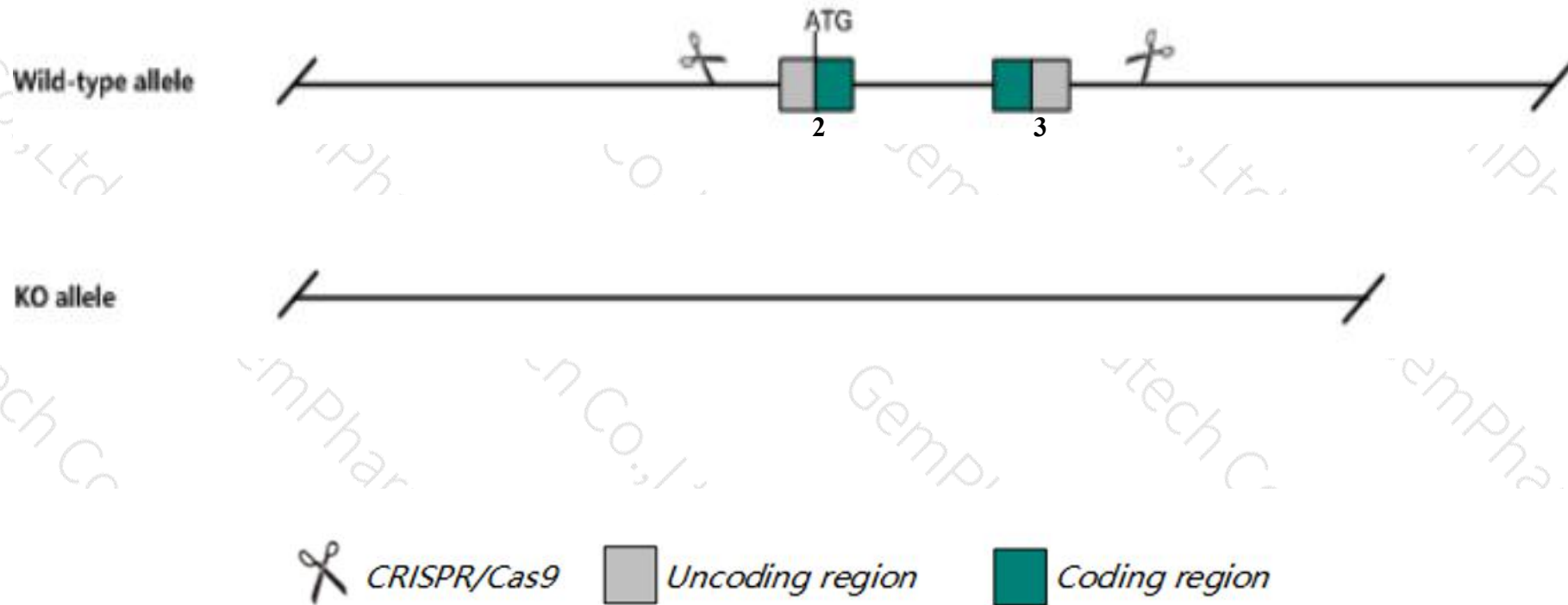
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *S100a16* gene. The schematic diagram is as follows:



- The *S100a16* gene has 8 transcripts. According to the structure of *S100a16* gene, exon2-exon3 of *S100a16-201*(ENSMUST00000098910.2) transcript is recommended as the knockout region. The region contains all 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 *S100a16* gene. The brief process is as follows: CRISPR/Cas9 system 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 *S100a16* gene is located on the Chr3. 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)

S100a16 S100 calcium binding protein A16 [Mus musculus (house mouse)]

Gene ID: 67860, updated on 13-Mar-2020

Summary



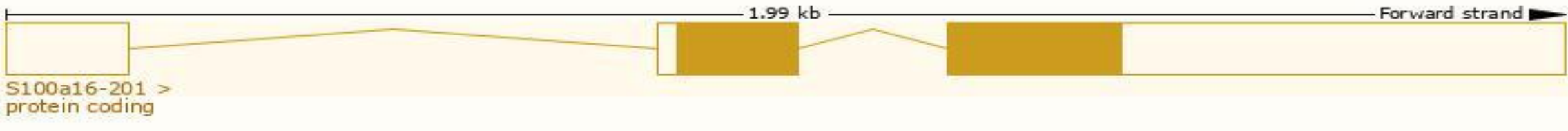
Official Symbol	S100a16 provided by MGI
Official Full Name	S100 calcium binding protein A16 provided by MGI
Primary source	MGI:MGI:1915110
See related	Ensembl:ENSMUSG00000074457
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2300002L21Rik, AI325039, AI663996, DT1P1A7, S100F
Expression	Ubiquitous expression in colon adult (RPKM 66.5), stomach adult (RPKM 63.5) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

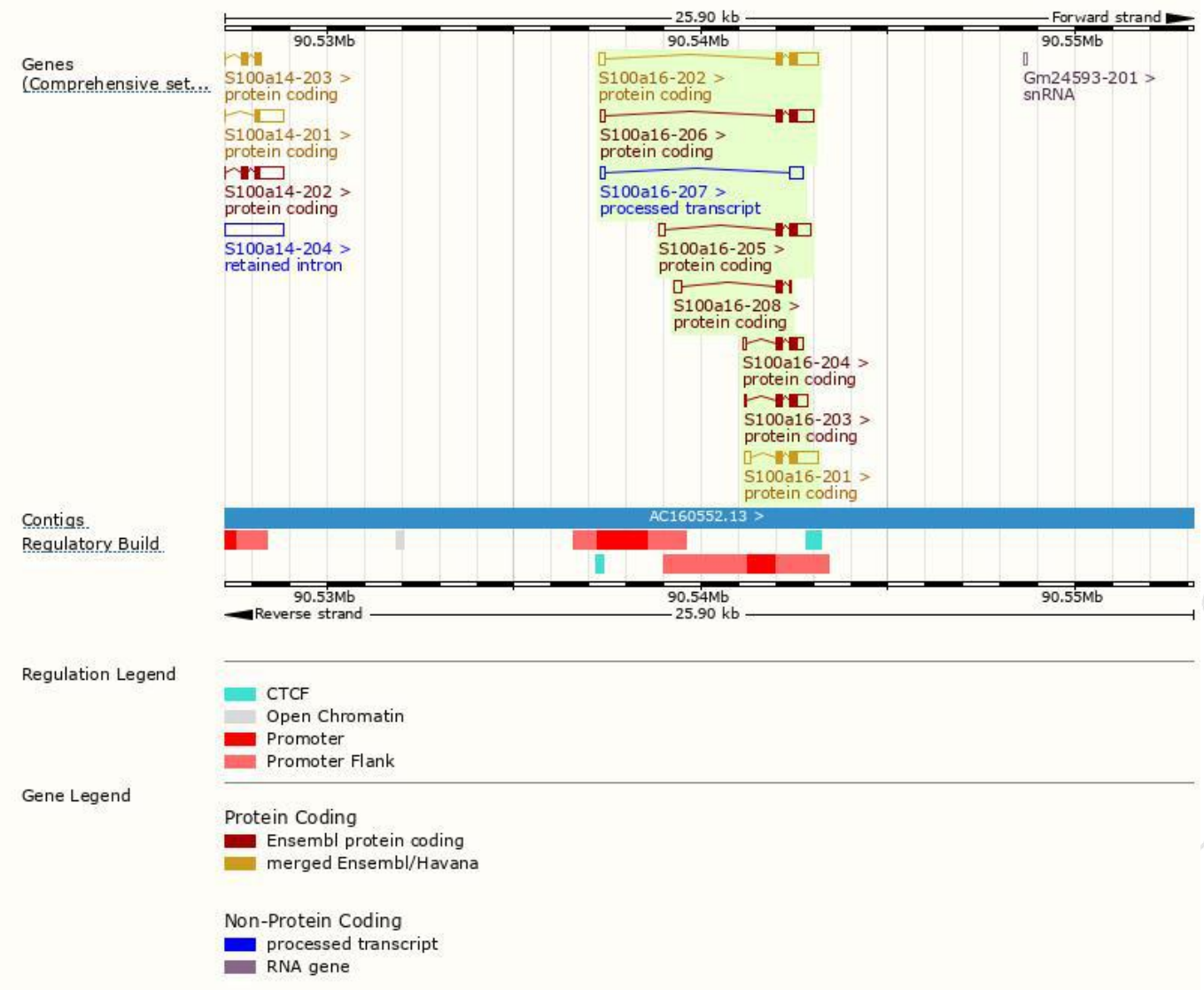
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
S100a16-202	ENSMUST00000098911.9	1127	124aa	Protein coding	CCDS17536	Q9D708	TSL:1 GENCODE basic APPRIS P1
S100a16-201	ENSMUST00000098910.2	1123	124aa	Protein coding	CCDS17536	Q9D708	TSL:1 GENCODE basic APPRIS P1
S100a16-206	ENSMUST00000107335.1	926	124aa	Protein coding	CCDS17536	Q9D708	TSL:5 GENCODE basic APPRIS P1
S100a16-205	ENSMUST00000107334.7	879	124aa	Protein coding	CCDS17536	Q9D708	TSL:3 GENCODE basic APPRIS P1
S100a16-203	ENSMUST00000107331.7	723	124aa	Protein coding	CCDS17536	Q9D708	TSL:2 GENCODE basic APPRIS P1
S100a16-204	ENSMUST00000107333.7	608	124aa	Protein coding	CCDS17536	Q9D708	TSL:3 GENCODE basic APPRIS P1
S100a16-208	ENSMUST00000150833.7	422	72aa	Protein coding	-	D3Z2Y6	CDS 3' incomplete TSL:3
S100a16-207	ENSMUST00000127008.1	464	No protein	Processed transcript	-	-	TSL:3

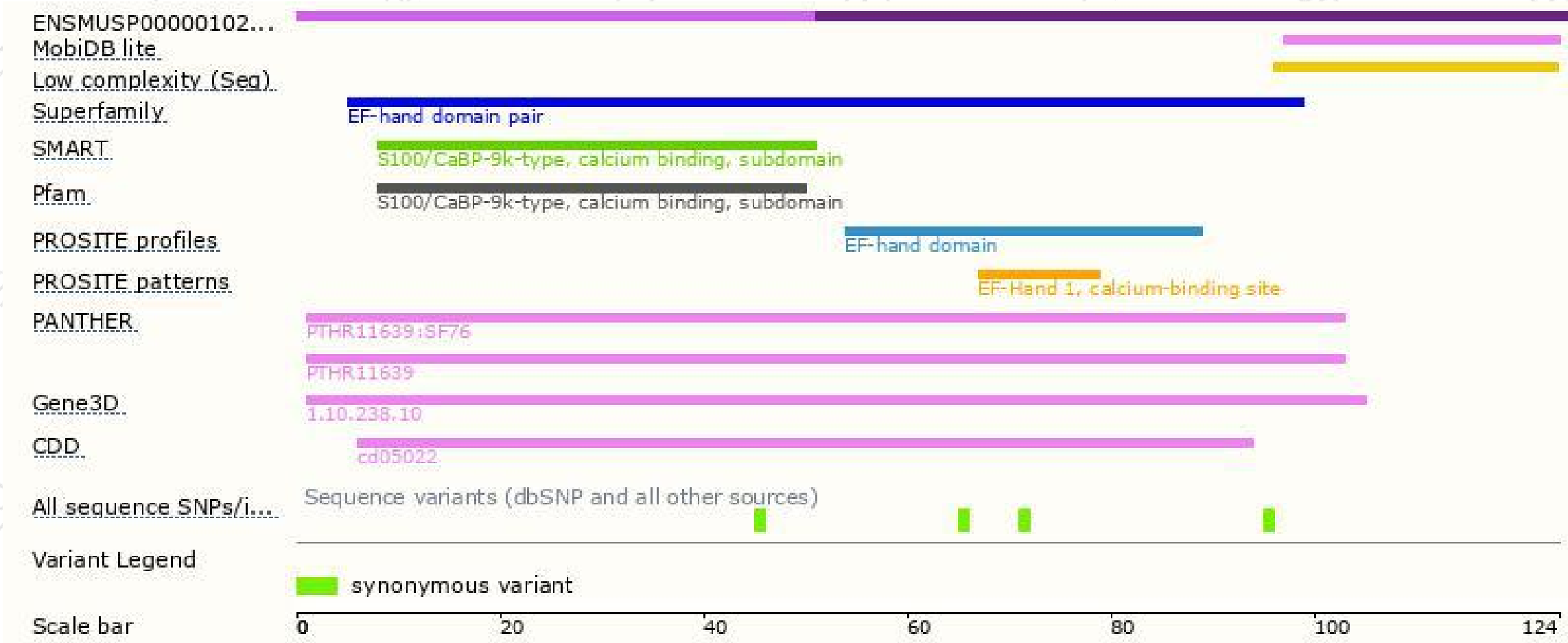
The strategy is based on the design of *S100a16-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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