

Sdcbp Cas9-KO Strategy

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Design Date:

2020-1-15

Project Overview

Project Name

Sdcbp

Project type

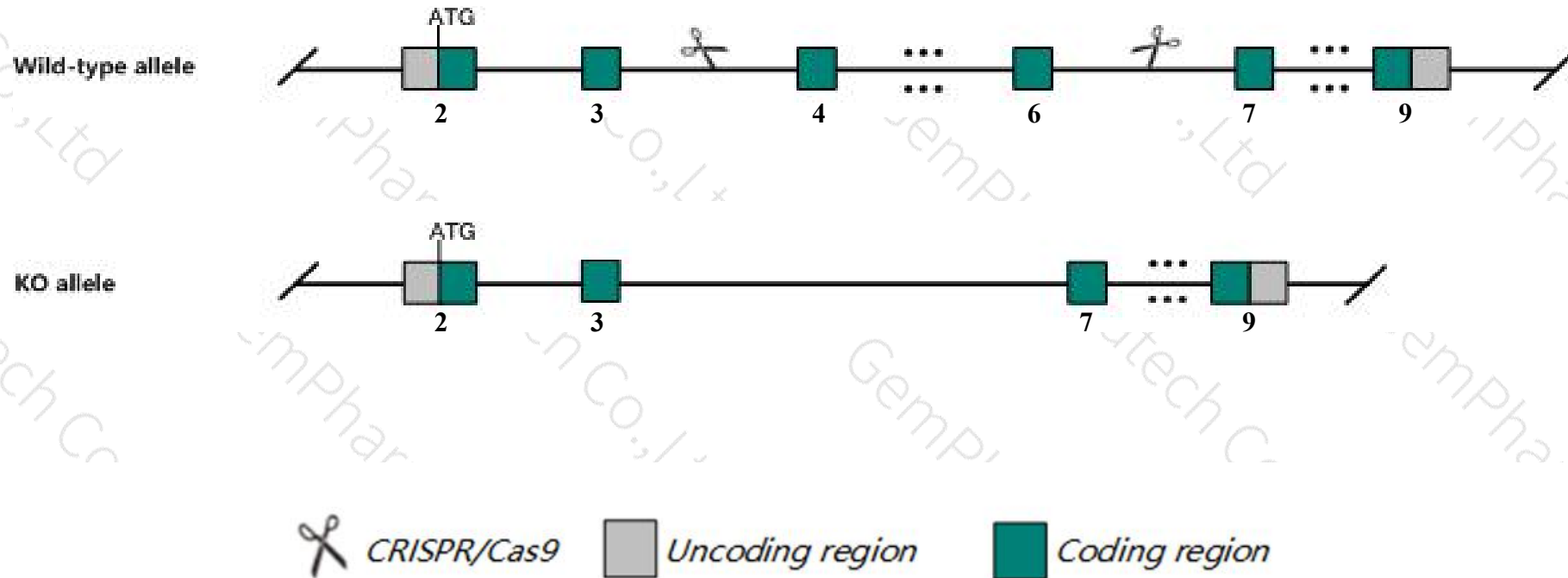
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Sdcbp* gene has 8 transcripts. According to the structure of *Sdcbp* gene, exon4-exon6 of *Sdcbp-201* (ENSMUST00000029912.10) transcript is recommended as the knockout region. The region contains 448bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Sdcbp* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice heterozygous for a conditional allele activated in neurons exhibit abnormal dendrite morphology and reduced mEPSC frequency.
- The *Sdcbp* gene is located on the Chr4. 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)

Sdcbp syndecan binding protein [Mus musculus (house mouse)]

Gene ID: 53378, updated on 31-Jan-2019

Summary



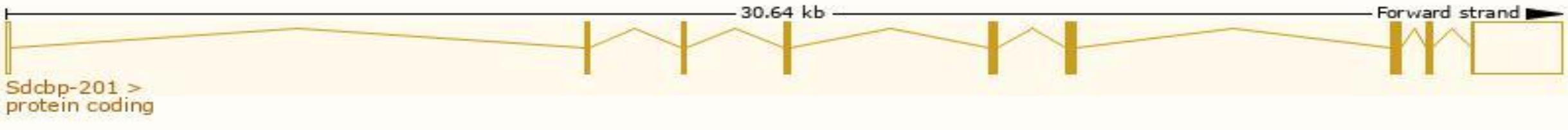
Official Symbol	Sdcbp provided by MGI
Official Full Name	syndecan binding protein provided by MGI
Primary source	MGI:MGI:1337026
See related	Ensembl:ENSMUSG00000028249
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	MDA-9, Sycl, syntenin-1
Expression	Ubiquitous expression in placenta adult (RPKM 62.3), bladder adult (RPKM 56.4) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

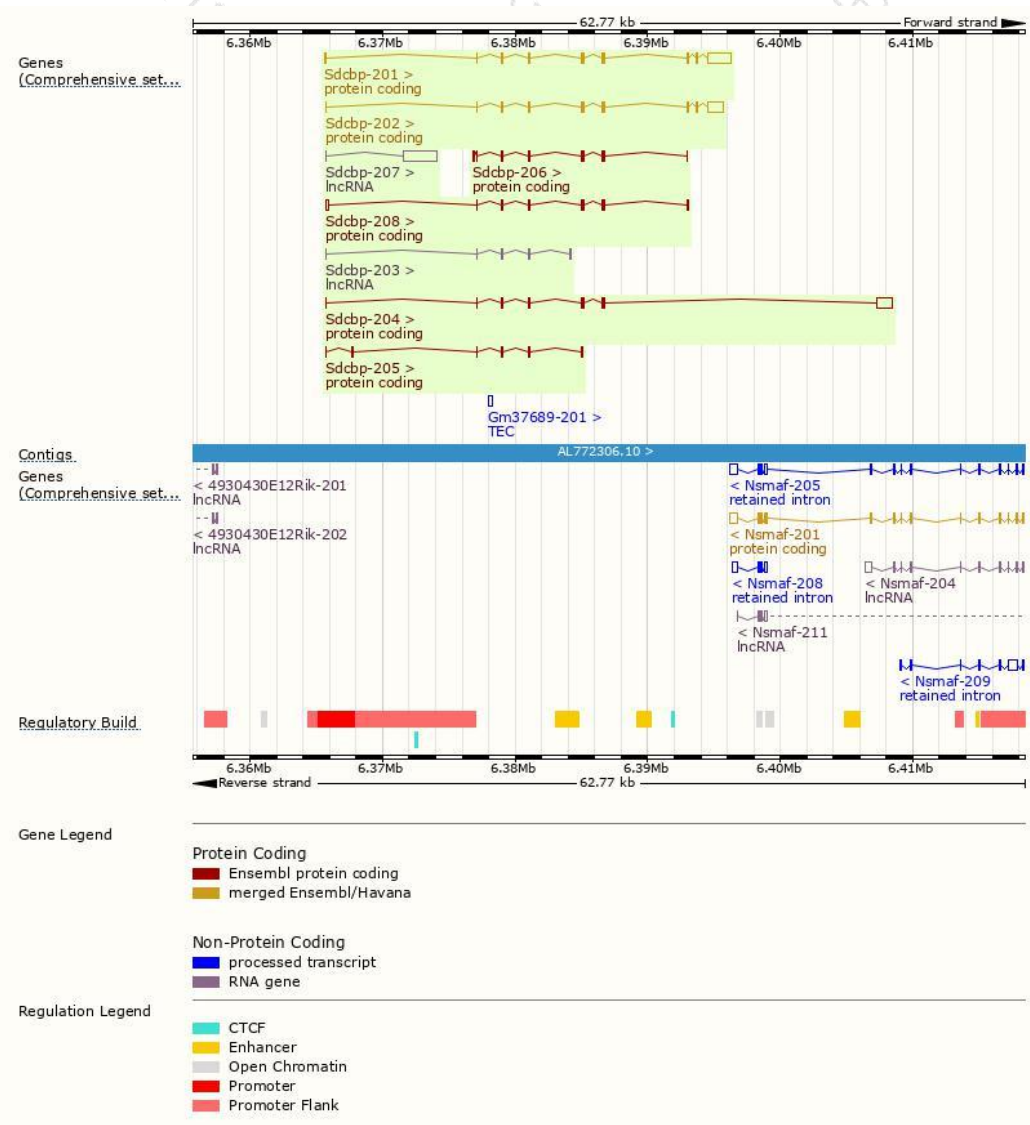
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Sdcbp-201	ENSMUST00000029912.10	2745	299aa	Protein coding	CCDS51110	O08992	TSL:1 GENCODE basic APPRIS ALT2
Sdcbp-202	ENSMUST00000103008.11	2086	298aa	Protein coding	CCDS17951	Q3TMX0	TSL:1 GENCODE basic APPRIS P3
Sdcbp-204	ENSMUST00000108374.7	1803	199aa	Protein coding	-	A2AKJ9	TSL:1 GENCODE basic
Sdcbp-208	ENSMUST00000175769.7	975	249aa	Protein coding	-	H3BLG5	CDS 3' incomplete TSL:5
Sdcbp-206	ENSMUST00000153861.1	697	209aa	Protein coding	-	A2AKJ6	CDS 3' incomplete TSL:5
Sdcbp-205	ENSMUST00000140830.7	506	91aa	Protein coding	-	A2AKJ5	CDS 3' incomplete TSL:5
Sdcbp-207	ENSMUST00000155247.1	2603	No protein	lncRNA	-	-	TSL:1
Sdcbp-203	ENSMUST00000108371.3	369	No protein	lncRNA	-	-	TSL:5

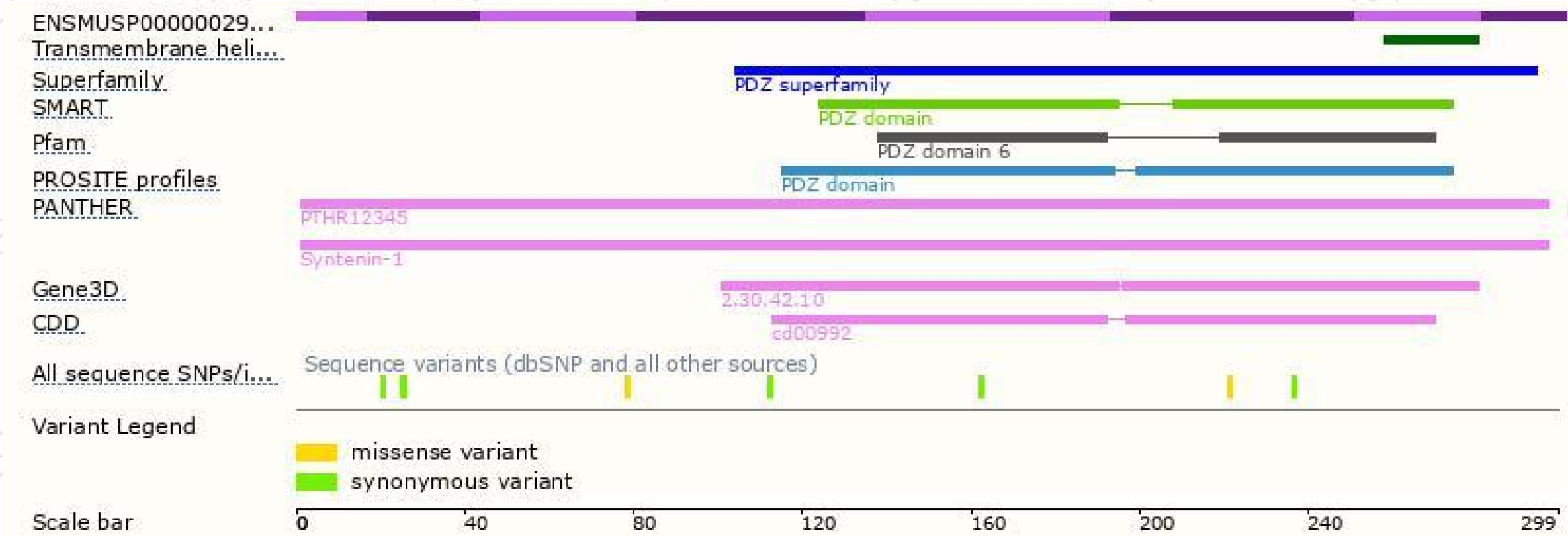
The strategy is based on the design of *Sdcbp-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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