

Scgn Cas9-CKO Strategy

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Project Overview

Project Name

Scgn

Project type

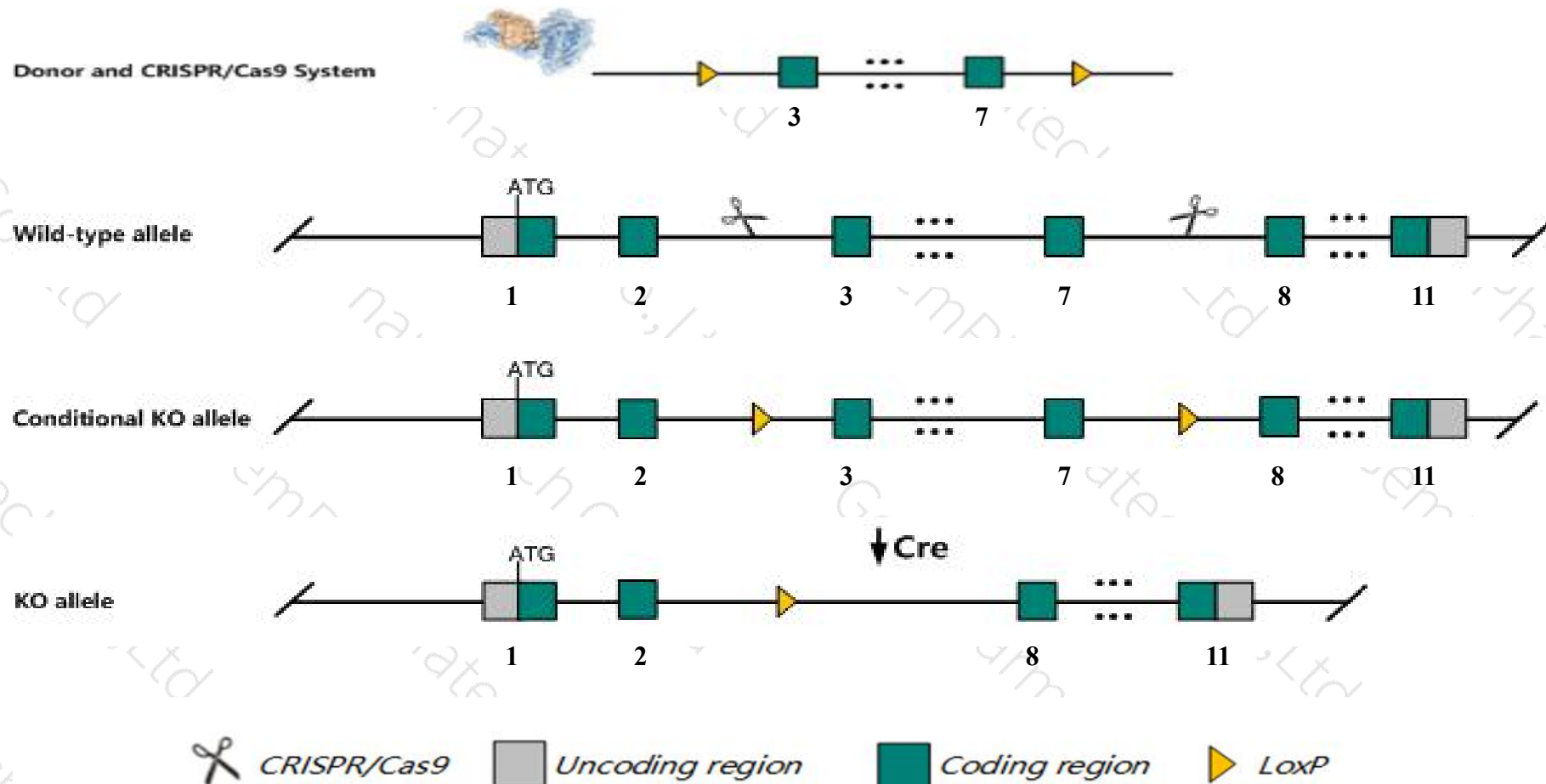
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



Technical routes

- The *Scgn* gene has 3 transcripts. According to the structure of *Scgn* gene, exon3-exon7 of *Scgn-201* (ENSMUST00000021770.7) transcript is recommended as the knockout region. The region contains 374bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Scgn* gene. The brief process is as follows: gRNA was transcribed in vitro, donor was constructed. Cas9, gRNA 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 *Scgn* gene is located on the Chr13. 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.
- The distance between exon7 of *Scgn* and *Gm11339* is about 0.4kb, and the *Gm11339* may be affected.
- This Strategy is designed based on genetic information in existing databases. Due to the complexity of gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information (NCBI)

Scgn secretagodin, EF-hand calcium binding protein [Mus musculus (house mouse)]

Gene ID: 214189, updated on 31-Jan-2019

Summary

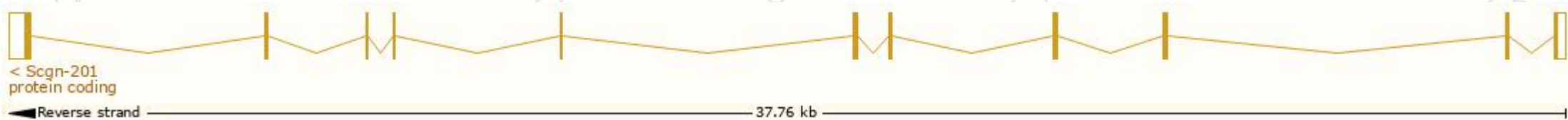
Official Symbol	Scgn provided by MGI
Official Full Name	secretagodin, EF-hand calcium binding protein provided by MGI
Primary source	MGI:MGI:2384873
See related	Ensembl:ENSMUSG000000021337
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Expression	Biased expression in frontal lobe adult (RPKM 4.4), large intestine adult (RPKM 1.2) and 8 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

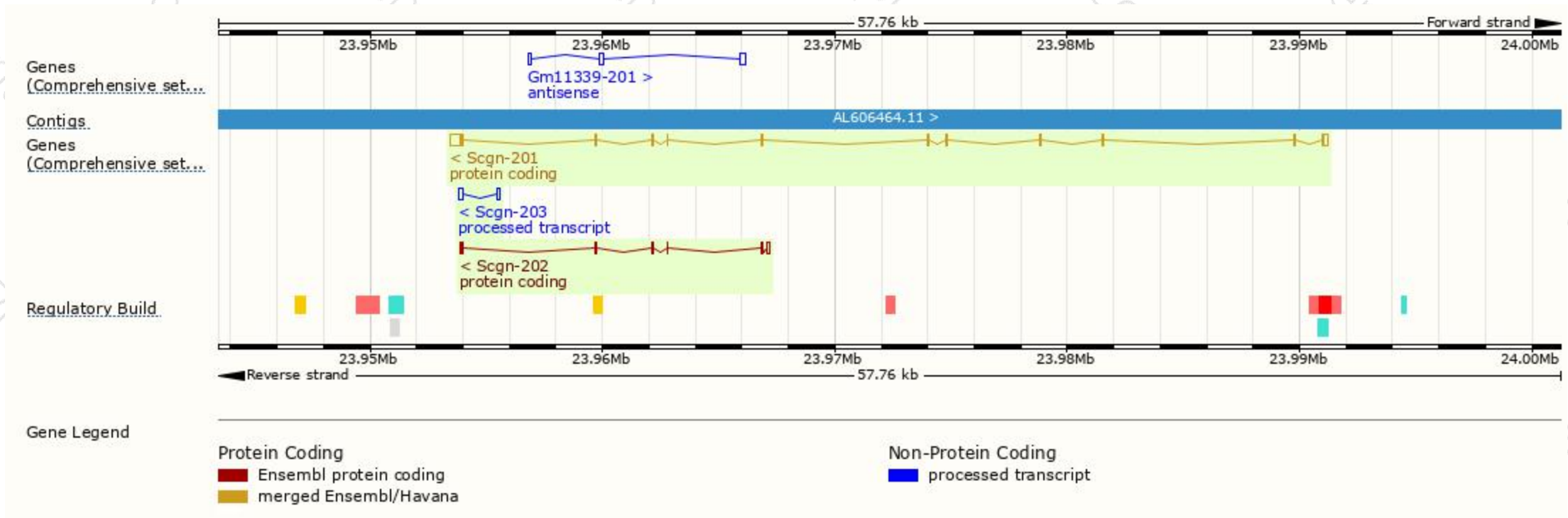
The gene has 3 transcripts, and all transcripts are shown below :

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Scgn-201	ENSMUST00000021770.7	1412	276aa	Protein coding	CCDS26375	Q91WD9	TSL:1 GENCODE basic APPRIS P1
Scgn-202	ENSMUST00000142826.2	470	119aa	Protein coding	-	A0A286YD29	TSL:5 GENCODE basic
Scgn-203	ENSMUST00000226031.1	245	No protein	Processed transcript	-	-	

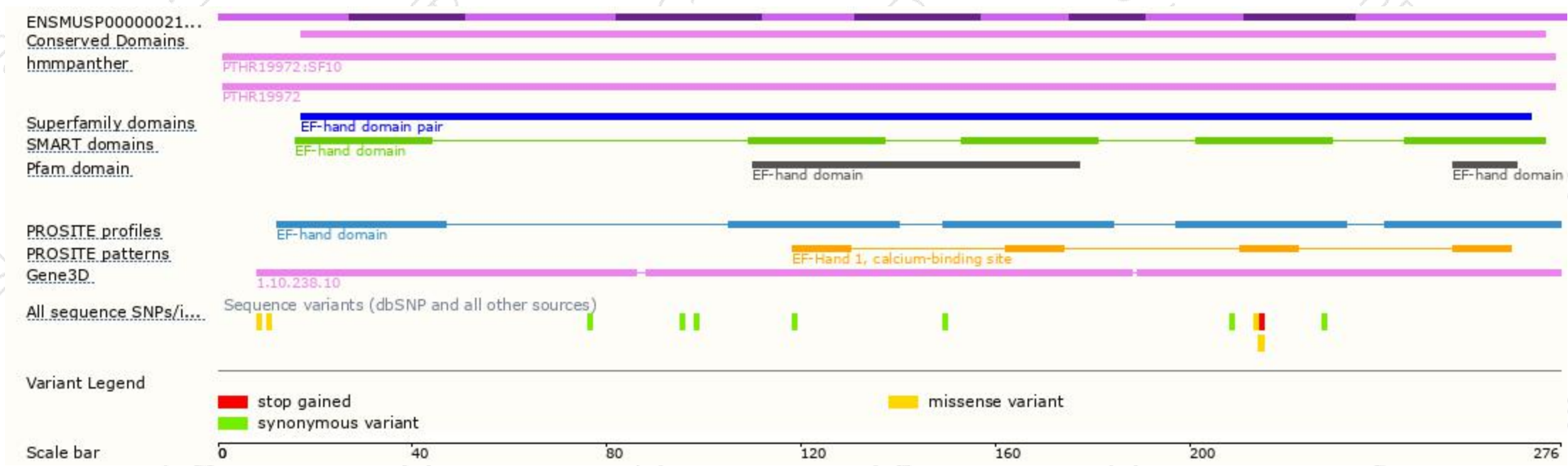
The strategy is based on the design of *Scgn-201* transcript, the transcription is shown below



Genomic location distribution



Protein domain



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