

Adgra3 Cas9-KO Strategy

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Project Overview

Project Name

Adgra3

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Adgra3* gene. The schematic diagram is as follows:



- The *Adgra3* gene has 7 transcripts. According to the structure of *Adgra3* gene, exon2-exon6 of *Adgra3-201* (ENSMUST00000030971.6) transcript is recommended as the knockout region. The region contains 449bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Adgra3* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Homozygous mutant mice are fertile and grossly normal.
- The *Adgra3* gene is located on the Chr5. 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)

Adgra3 adhesion G protein-coupled receptor A3 [Mus musculus (house mouse)]

Gene ID: 70693, updated on 31-Jan-2019

Summary



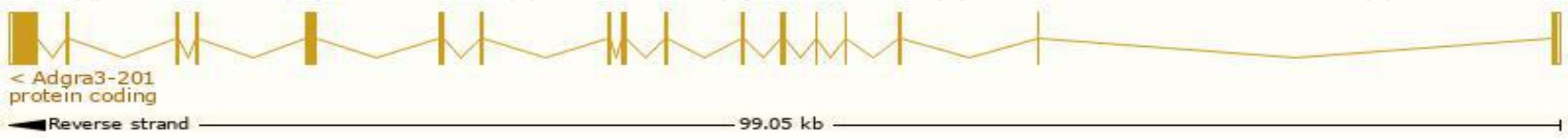
Official Symbol	Adgra3 provided by MGI
Official Full Name	adhesion G protein-coupled receptor A3 provided by MGI
Primary source	MGI:MGI:1917943
See related	Ensembl:ENSMUSG00000029090
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	3830613O22Rik, AU044632, Gpr125, Tem5-like
Expression	Ubiquitous expression in limb E14.5 (RPKM 32.5), ovary adult (RPKM 24.3) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

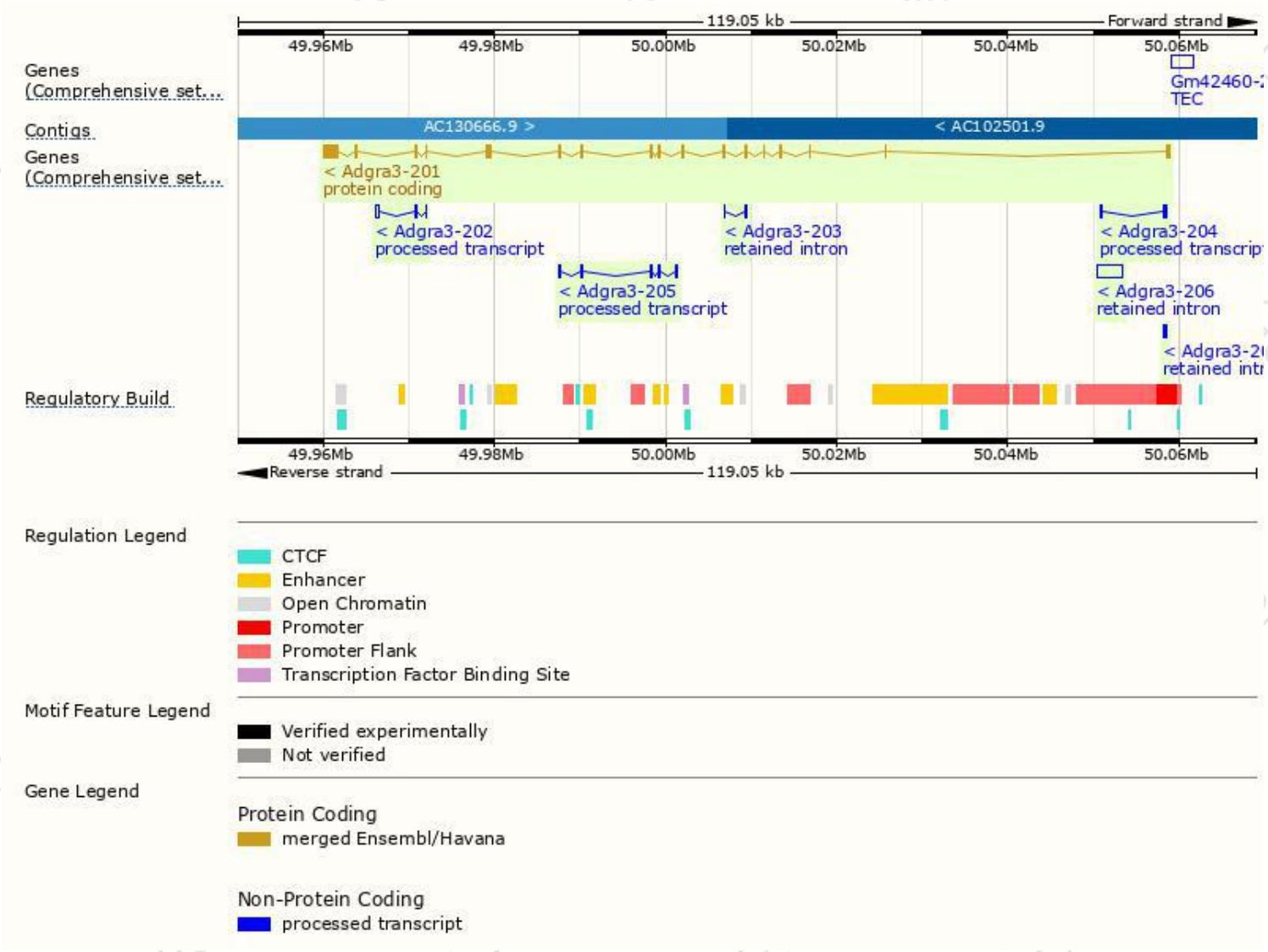
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Adgra3-201	ENSMUST00000030971.6	4480	1310aa	Protein coding	CCDS51500	Q7TT36	TSL:1 GENCODE basic APPRIS P1
Adgra3-205	ENSMUST00000198818.1	797	No protein	Processed transcript	-	-	TSL:3
Adgra3-202	ENSMUST00000196177.1	543	No protein	Processed transcript	-	-	TSL:5
Adgra3-204	ENSMUST00000196915.4	396	No protein	Processed transcript	-	-	TSL:3
Adgra3-206	ENSMUST00000198868.1	2991	No protein	Retained intron	-	-	TSL:NA
Adgra3-207	ENSMUST00000199132.1	314	No protein	Retained intron	-	-	TSL:3
Adgra3-203	ENSMUST00000196229.1	215	No protein	Retained intron	-	-	TSL:1

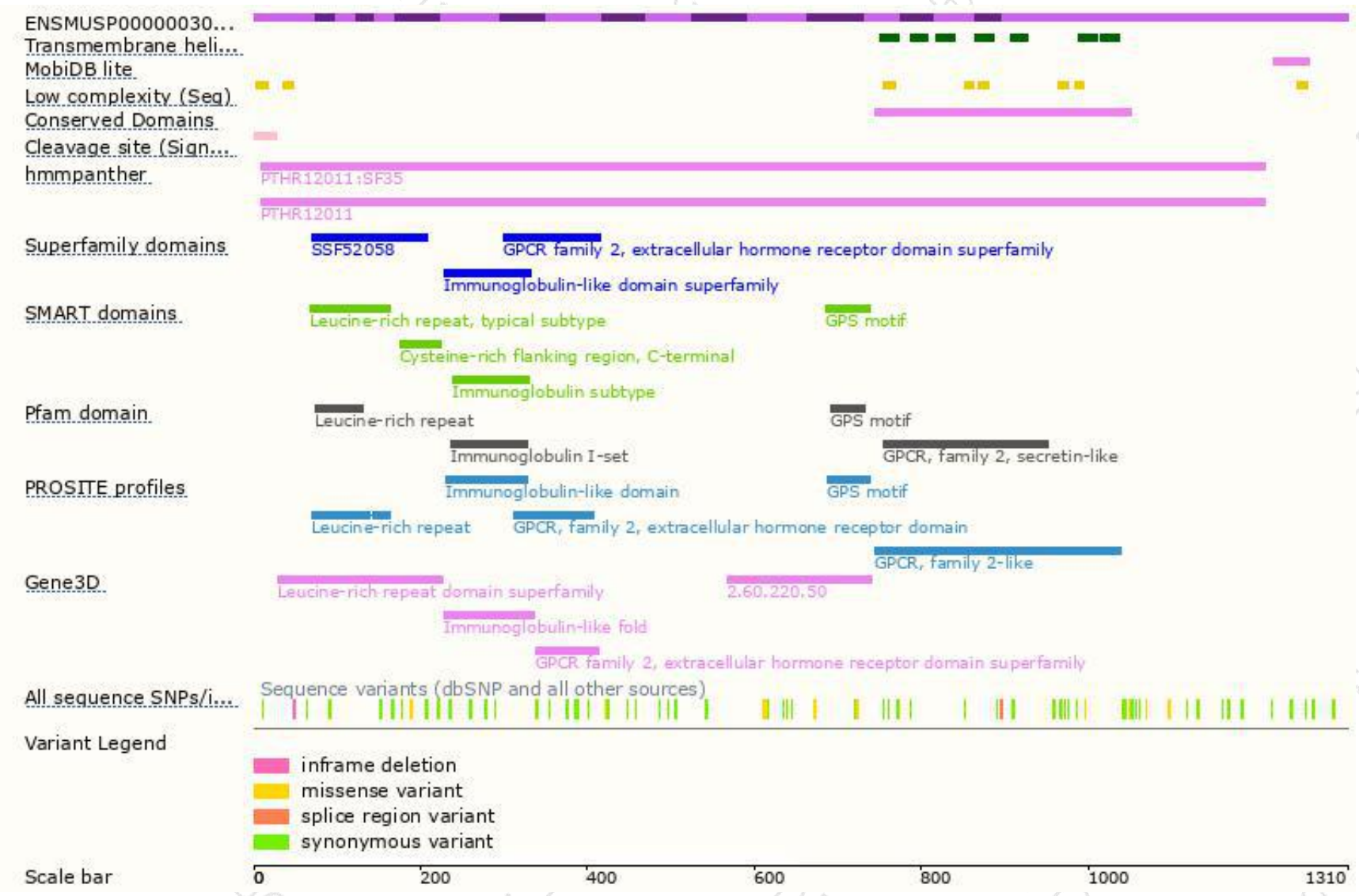
The strategy is based on the design of *Adgra3-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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