

Gna14 Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Gna14

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Gna14* gene. The schematic diagram is as follows:



- The *Gna14* gene has 2 transcripts. According to the structure of *Gna14* gene, exon2 of *Gna14-201* (ENSMUST00000025602.3) transcript is recommended as the knockout region. The region contains 185bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Gna14* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Gna14* gene is located on the Chr19. 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)

Gna14 guanine nucleotide binding protein, alpha 14 [Mus musculus (house mouse)]

Gene ID: 14675, updated on 31-Jan-2019

Summary



Official Symbol Gna14 provided by [MGI](#)

Official Full Name guanine nucleotide binding protein, alpha 14 provided by [MGI](#)

Primary source [MGI:MGI:95769](#)

See related [Ensembl:ENSMUSG000000024697](#)

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 AU023208

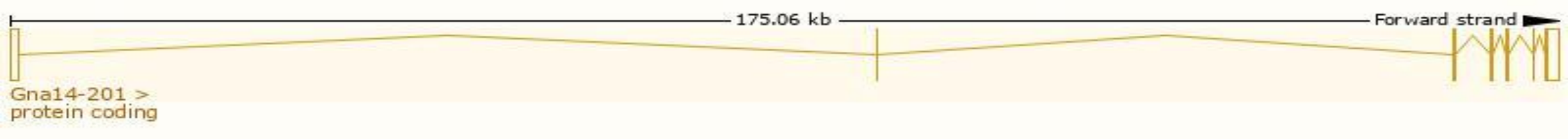
Expression Biased expression in colon adult (RPKM 20.8), adrenal adult (RPKM 12.1) and 9 other tissues [See more](#)

Transcript information (Ensembl)

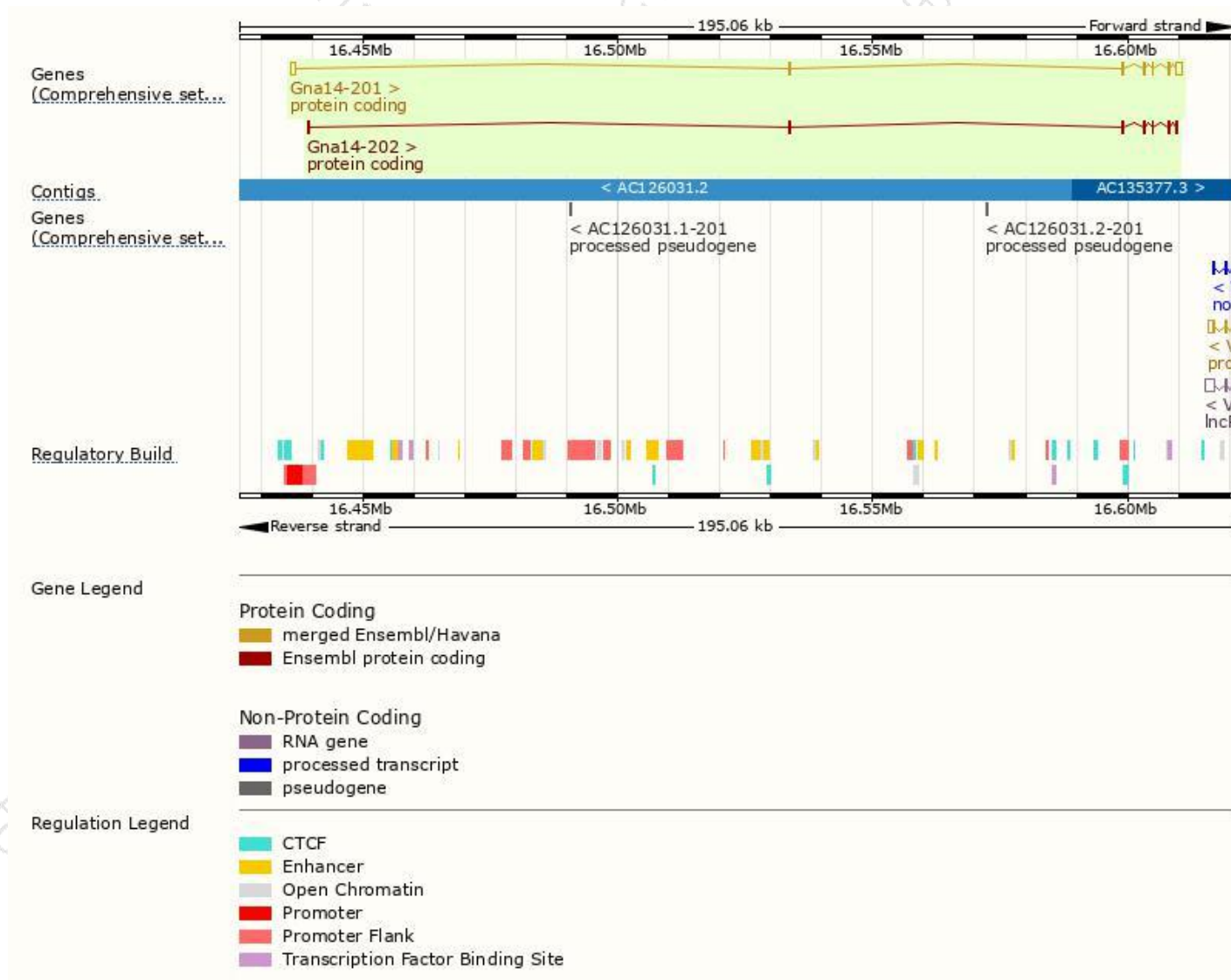
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Gna14-201	ENSMUST00000025602.3	3290	355aa	Protein coding	CCDS29685	P30677	TSL:1 GENCODE basic APPRIS P1
Gna14-202	ENSMUST000000237350.1	1377	301aa	Protein coding	-	-	GENCODE basic

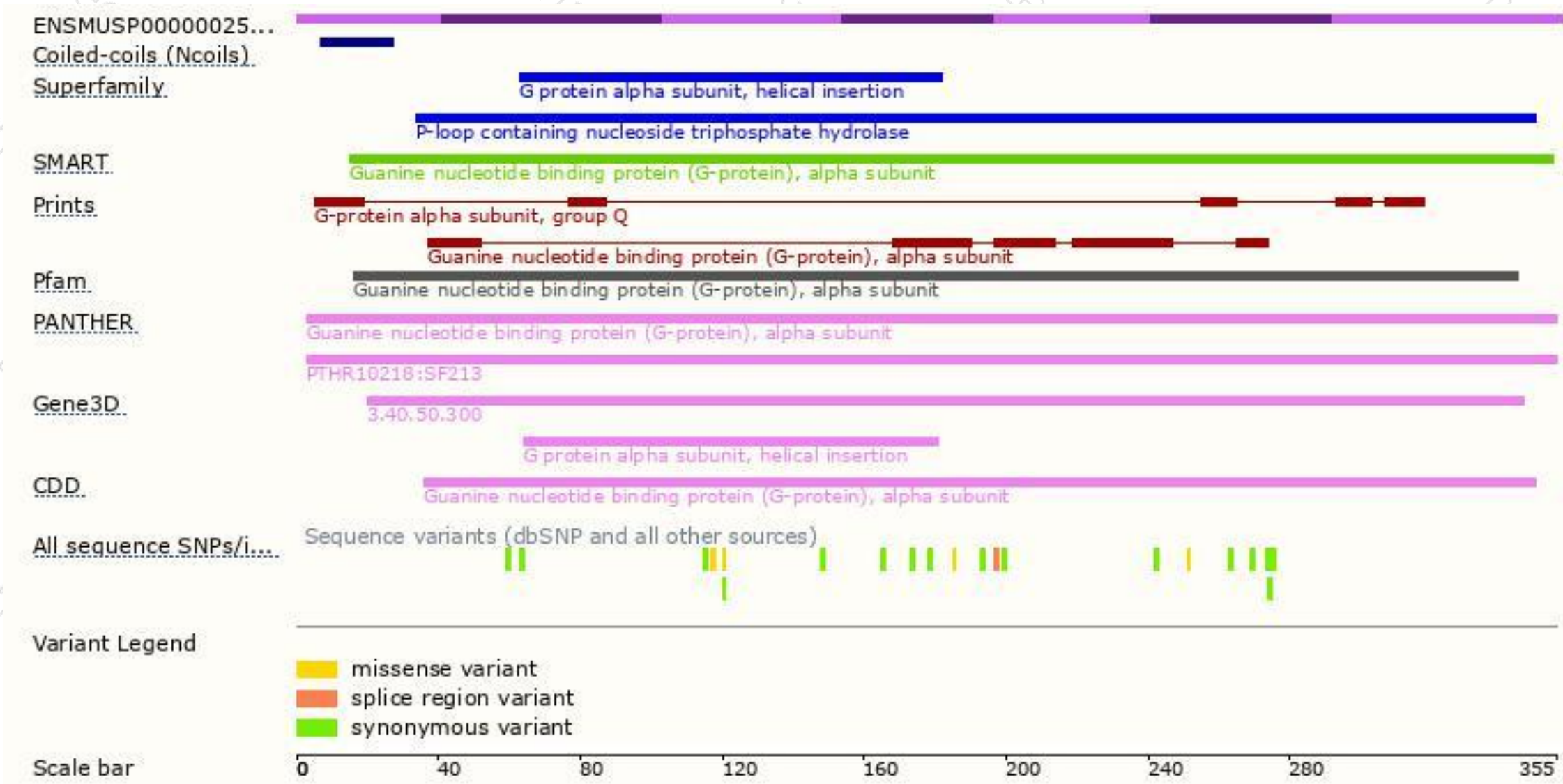
The strategy is based on the design of *Gna14-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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