

B3glct Cas9-KO Strategy

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Date: 2019-8-6

Project Overview

Project Name

B3glct

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *B3glt* gene. The schematic diagram is as follows:



- The *B3glct* gene has 3 transcripts. According to the structure of *B3glct* gene, exon2 of *B3glct-201* (ENSMUST00000100404.5) transcript is recommended as the knockout region. The region contains 50bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *B3glct* gene. The brief process is as follows: CRISPR/Cas9 system

- The *B3glct* 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)

B3glct beta-3-glucosyltransferase [*Mus musculus* (house mouse)]

Gene ID: 381694, updated on 25-Jun-2019

Summary

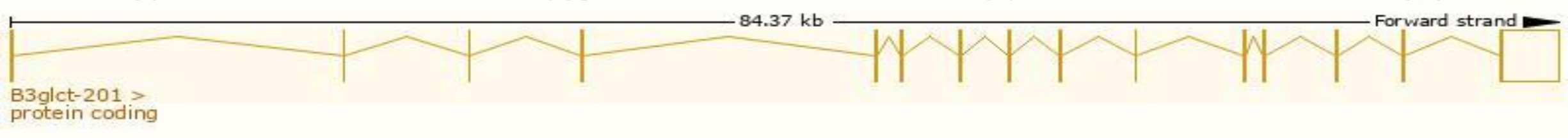
Official Symbol	B3glct provided by MGI
Official Full Name	beta-3-glucosyltransferase provided by MGI
Primary source	MGI:MGI:2685903
See related	Ensembl:ENSMUSG000000051950
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Gm1057; B3galt; beta3Glc-T
Expression	Ubiquitous expression in limb E14.5 (RPKM 4.9), CNS E18 (RPKM 4.4) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

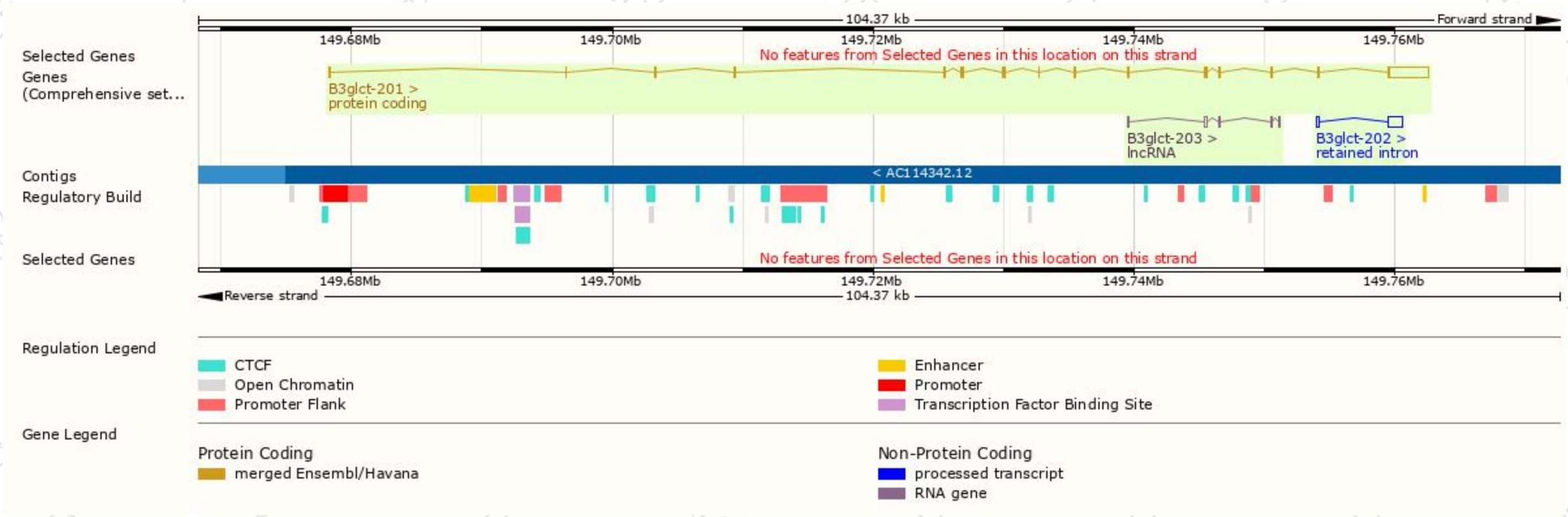
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
B3glct-201	ENSMUST00000100404.5	4570	489aa	Protein coding	CCDS39410	Q8BHT6	TSL:1 GENCODE basic APPRIS P1
B3glct-203	ENSMUST00000202302.1	509	No protein	Processed transcript	-	-	TSL:5
B3glct-202	ENSMUST00000201088.1	1437	No protein	Retained intron	-	-	TSL:1

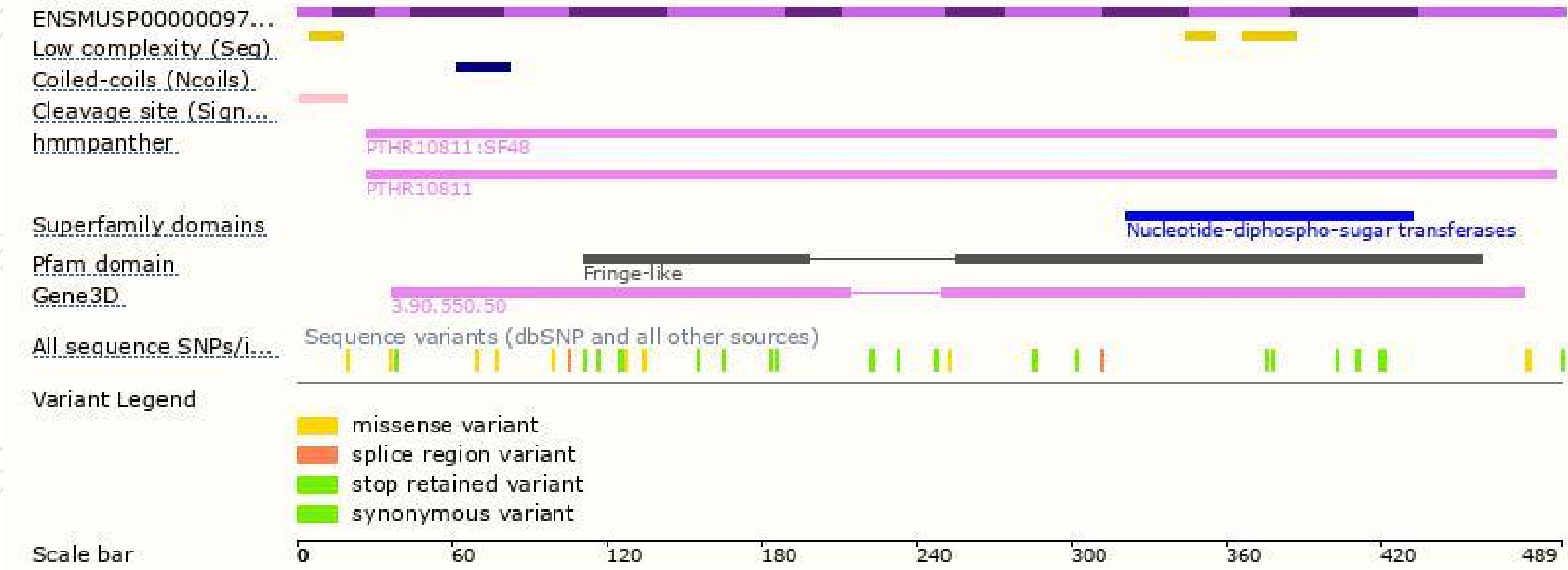
The strategy is based on the design of *B3glct-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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