B3galt1 Cas9-KO Strategy

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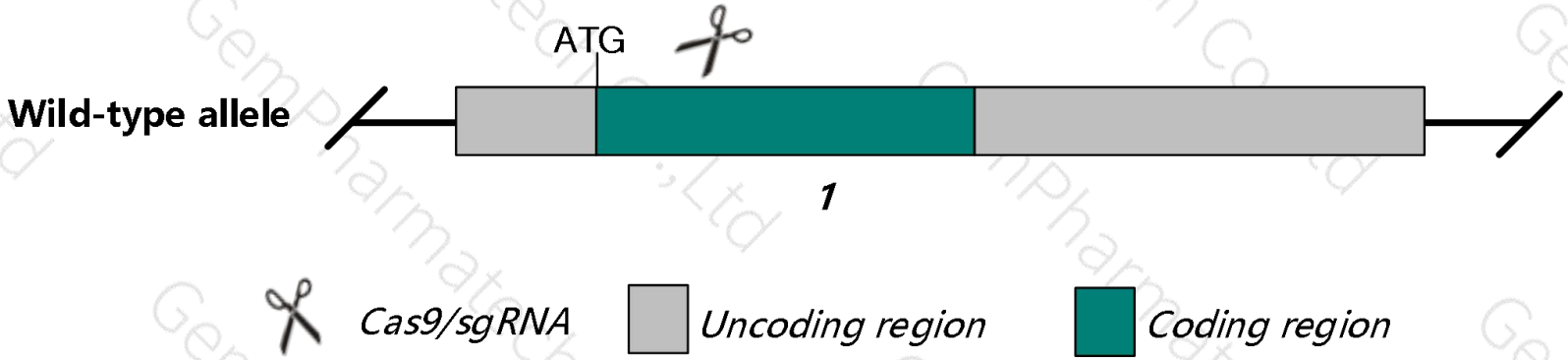
Project Overview

Project Name	***B3galt1***
Project type	**Cas9-KO**
Strain background	**C57BL/6N**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *B3galt1* gene. The schematic diagram is as follows:



Technical routes

- In this project we use CRISPR/Cas9 technology to modify *B3galt1* gene. The brief process is as follows: sgRNA was transcribed in vitro.Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6N 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/6N mice.

Notice

- The *B3galt1* gene is located on the Chr2. 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）

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B3galt1 UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 1 [*Mus musculus* (house mouse)]

Gene ID: 26877, updated on 12-Aug-2019

Summary

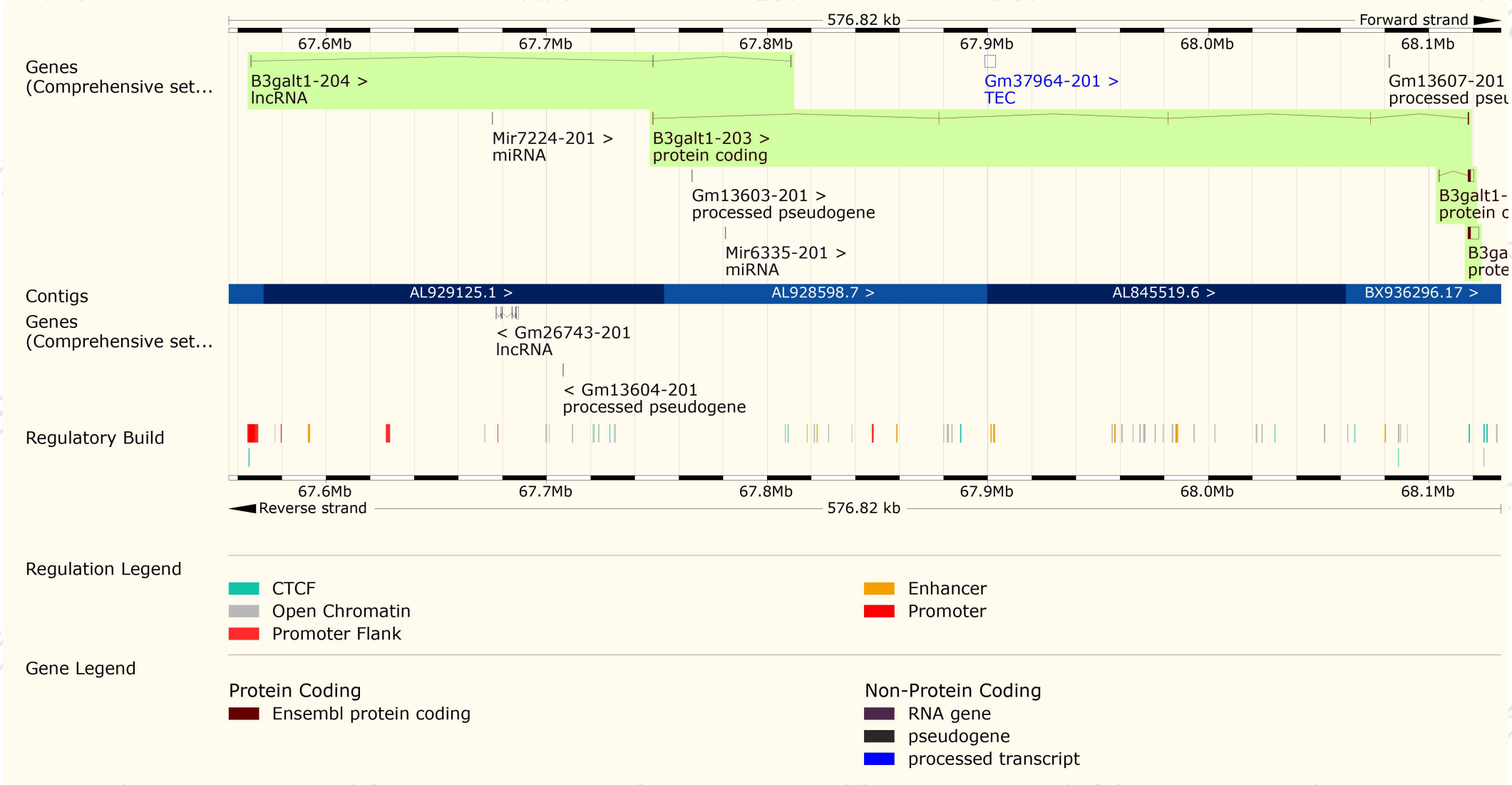
Official Symbol	B3galt1 provided by MGI
Official Full Name	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 1 provided by MGI
Primary source	MGI:MGI:1349403
See related	Ensembl:ENSMUSG00000034780
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	beta3Gal-T1
Expression	Biased expression in CNS E18 (RPKM 4.5), frontal lobe adult (RPKM 4.2) and 10 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
B3galt1-202	ENSMUST00000112346.2	4977	326aa	Protein coding	CCDS16083	O54904 Q505A3	TSL:NA GENCODE basic APPRIS P1
B3galt1-201	ENSMUST00000042456.3	2855	326aa	Protein coding	CCDS16083	O54904 Q505A3	TSL:1 GENCODE basic APPRIS P1
B3galt1-203	ENSMUST00000180887.1	769	69aa	Protein coding	-	M0QWQ4	CDS 3' incomplete TSL:3
B3galt1-204	ENSMUST00000188614.1	444	No protein	lncRNA	-	-	TSL:5

Genomic location distribution



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

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