Eogt Cas9-KO Strategy

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Design Date: 2020-2-14

Project Overview

Project Name	*Eogt*
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

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

Technical routes

➣ The *Eogt* gene has 8 transcripts. According to the structure of *Eogt* gene, exon5-exon8 of *Eogt-201* (ENSMUST00000054344.10) transcript is recommended as the knockout region.The region contains 410bp coding sequence. Knock out the region will result in disruption of protein function.

➣ In this project we use CRISPR/Cas9 technology to modify *Eogt* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

➢Transcript 203 may not be affected. The effect of transcripts 202,204,205,206,207,208 is unknown.

➢The *Eogt* gene is located on the Chr6. 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）

Eogt EGF domain-specific O-linked N-acetylglucosamine (GlcNAc) transferase [*Mus musculus* (house mouse)]

Gene ID: 101351, updated on 12-Aug-2019

Summary

Official Symbol	Eogt provided by MGI
Official Full Name	EGF domain-specific O-linked N-acetylglucosamine (GlcNAc) transferase provided by MGI
Primary source	MGI:MGI:2141669
See related	Ensembl:ENSMUSG00000035245
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	Aer61; AI447490; AW214473; AW259391; A130022J15Rik
Expression	Ubiquitous expression in lung adult (RPKM 7.7), bladder adult (RPKM 7.2) and 28 other tissues See more
Orthologs	human all

Genomic context

Location: 6; 6 D3

Exon count: 21
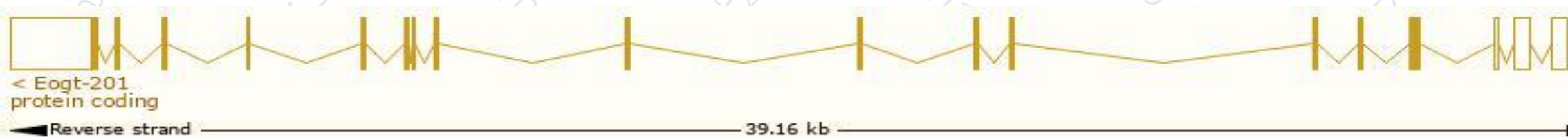
See Eogt in Genome Data Viewer

Transcript information（Ensembl）

The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Eogt-201	ENSMUST00000054344.10	4424	527aa	Protein coding	CCDS20383	Q8BYW9	TSL:1 GENCODE basic APPRIS P2
Eogt-205	ENSMUST00000136575.7	848	148aa	Protein coding	-	D3Z459	CDS 3' incomplete TSL:5
Eogt-202	ENSMUST00000113387.7	701	61aa	Protein coding	-	D3Z052	TSL:5 GENCODE basic APPRIS ALT2
Eogt-207	ENSMUST00000142553.7	593	90aa	Protein coding	-	D3YWW8	CDS 3' incomplete TSL:3
Eogt-206	ENSMUST00000142116.1	509	49aa	Protein coding	-	D3Z5Q3	CDS 3' incomplete TSL:2
Eogt-208	ENSMUST00000204331.2	501	67aa	Protein coding	-	A0A0N4SVY8	CDS 3' incomplete TSL:3
Eogt-204	ENSMUST00000135187.7	640	No protein	lncRNA	-	-	TSL:5
Eogt-203	ENSMUST00000130562.1	439	No protein	lncRNA	-	-	TSL:2

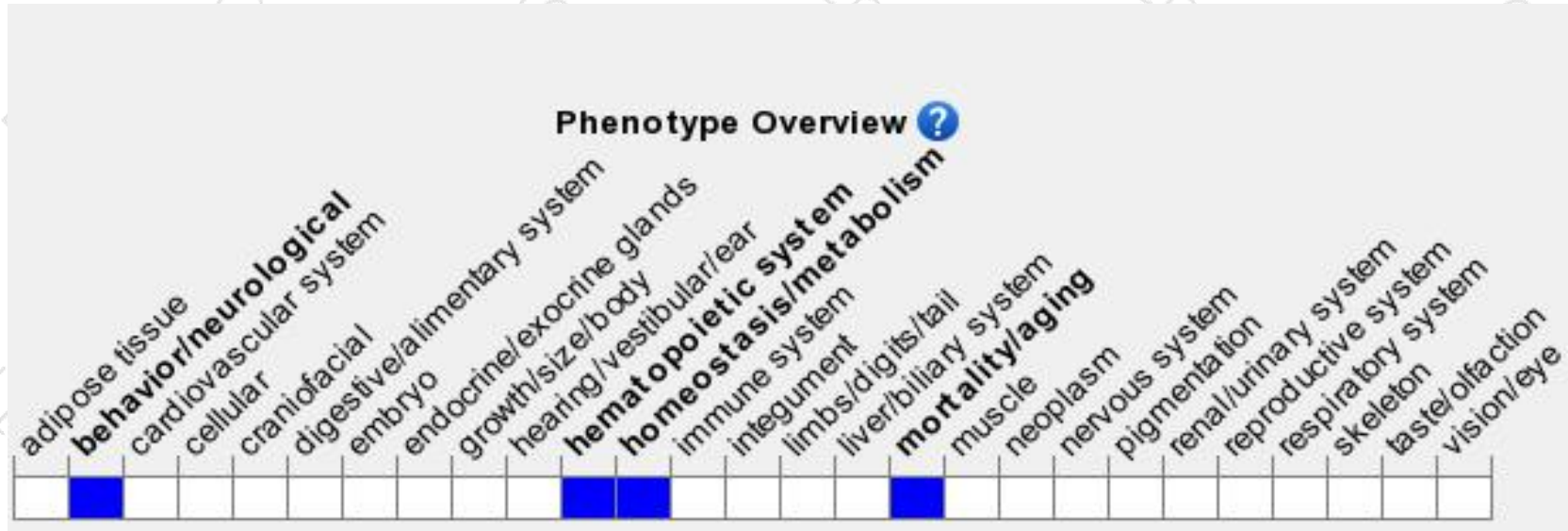The strategy is based on the design of *Eogt-201* transcript,The transcription is shown below

< Eogt-201
protein coding

◄ Reverse strand   39.16 kb

Genomic location distribution

Protein domain

ENSMUSP00000061...	
Cleavage site (Sign...	
Pfam	Glycosyltransferase 61
PANTHER	PTHR20961:SF38
	Glycosyltransferase 61
All sequence SNPs/i...	Sequence variants (dbSNP and all other sources)
Variant Legend	▢ missense variant
	▢ synonymous variant
Scale bar	0 60 120 180 240 300 360 420 527
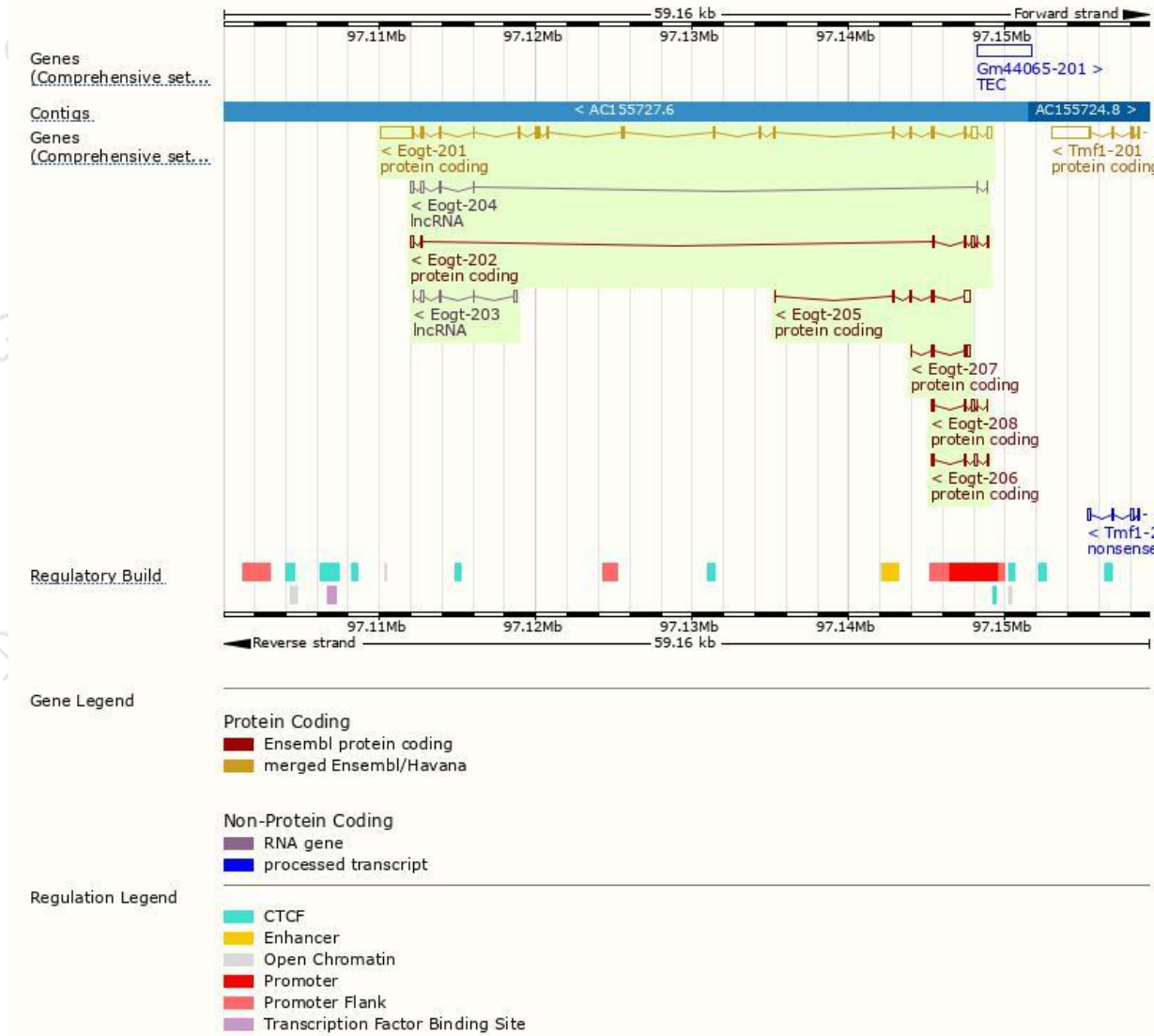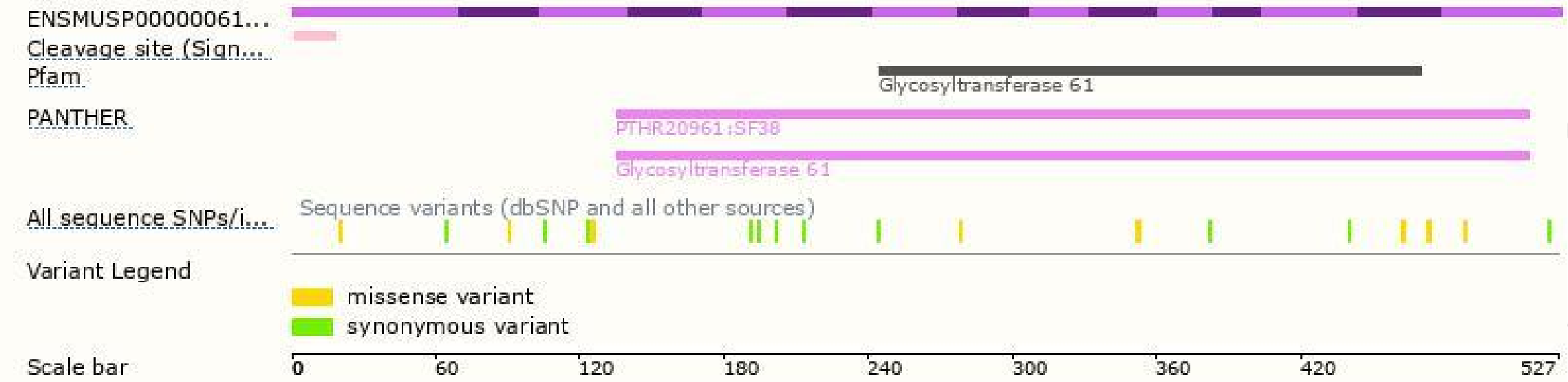
Mouse phenotype description(MGI)

Phenotypes affected by the gene are marked in blue.Data quoted from MGI database(http://www.informatics.jax.org/).

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