

Eogt Cas9-CKO Strategy

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Project Overview

Project Name

Eogt

Project type

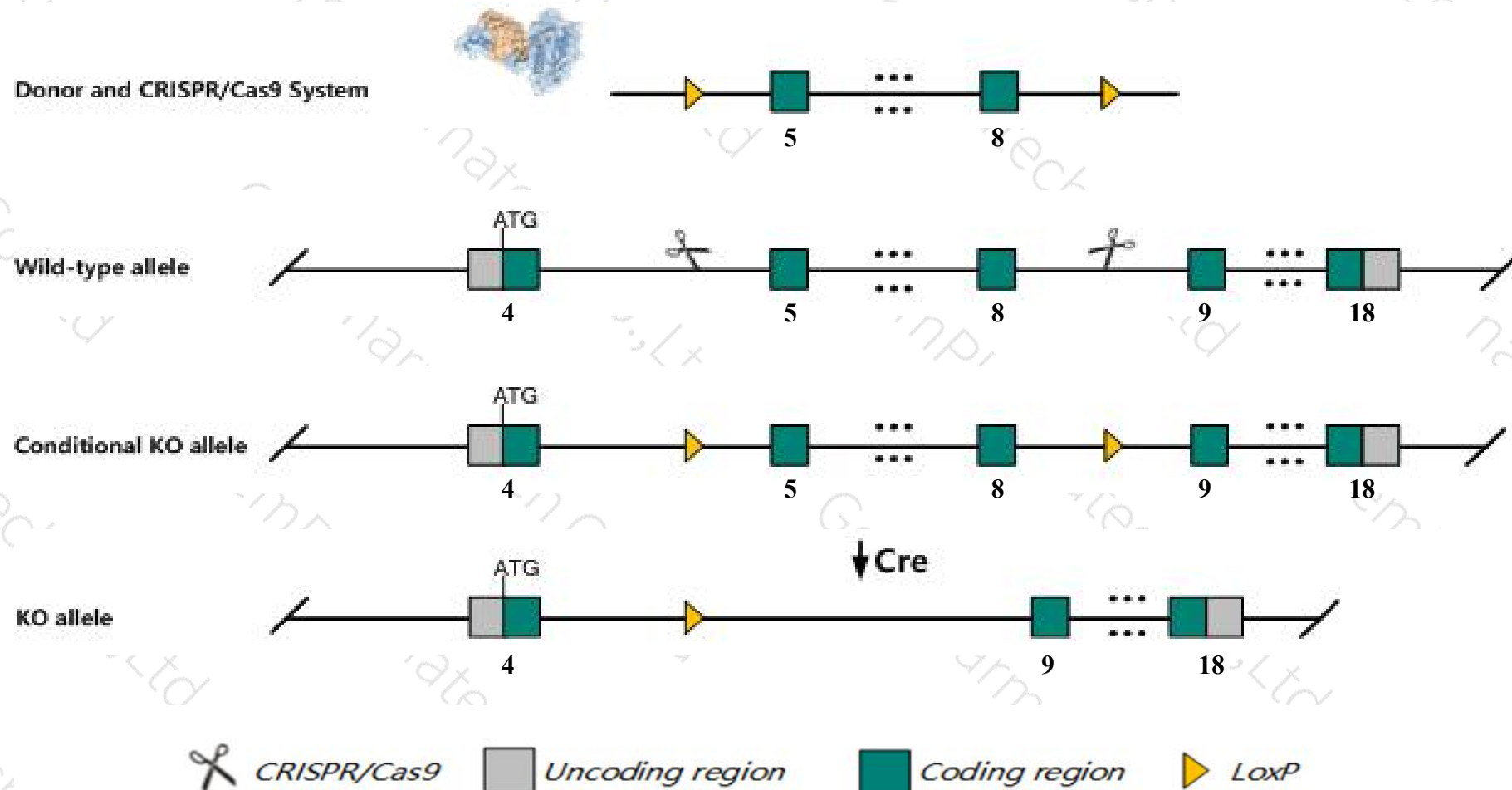
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



- 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 and Donor were microinjected into the fertilized eggs of C57BL/6JGpt 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/6JGpt mice.
- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological 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

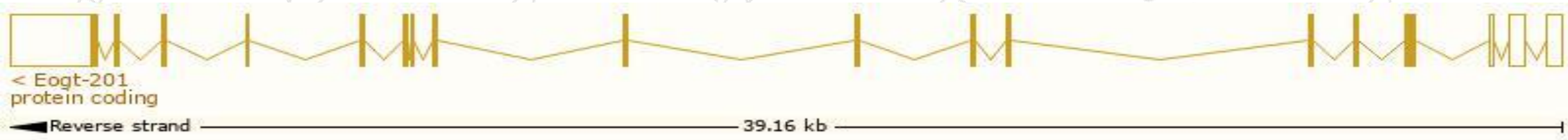
See Eogt in [Genome Data Viewer](#)

Transcript information (Ensembl)

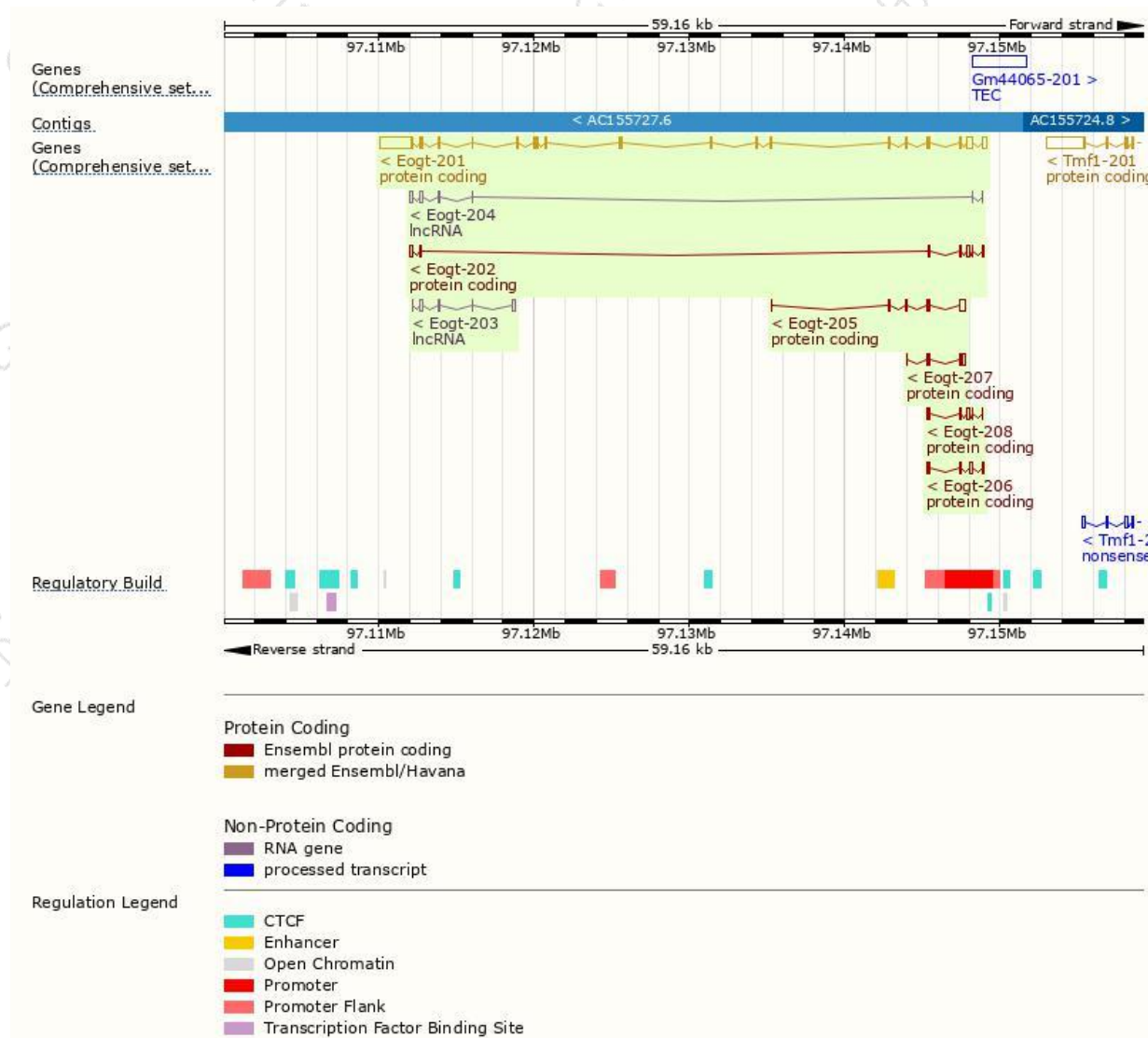
The gene has 8 transcripts,all transcripts are shown below:

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

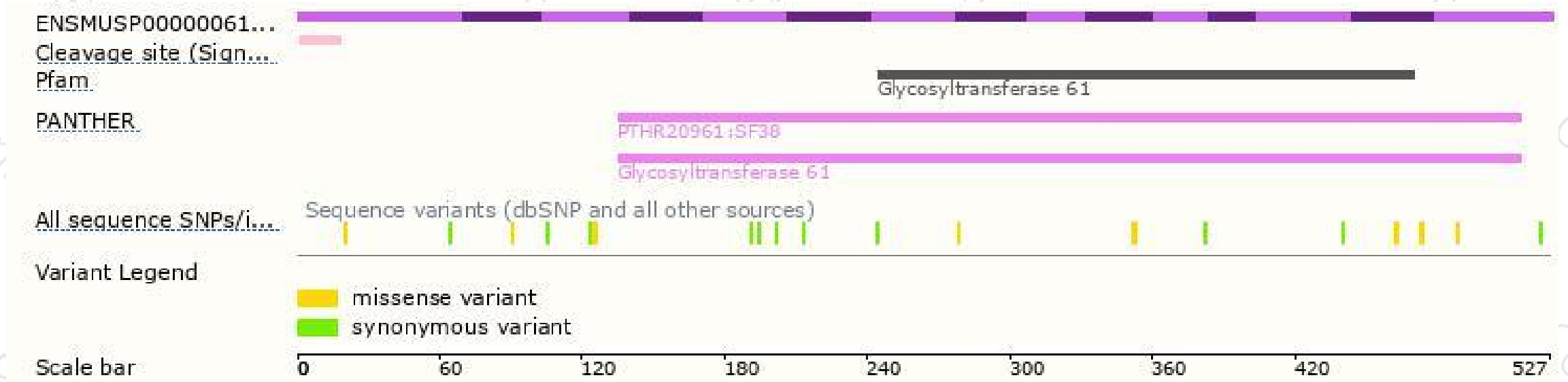
The strategy is based on the design of *Eogt-201* transcript,The transcription is shown below



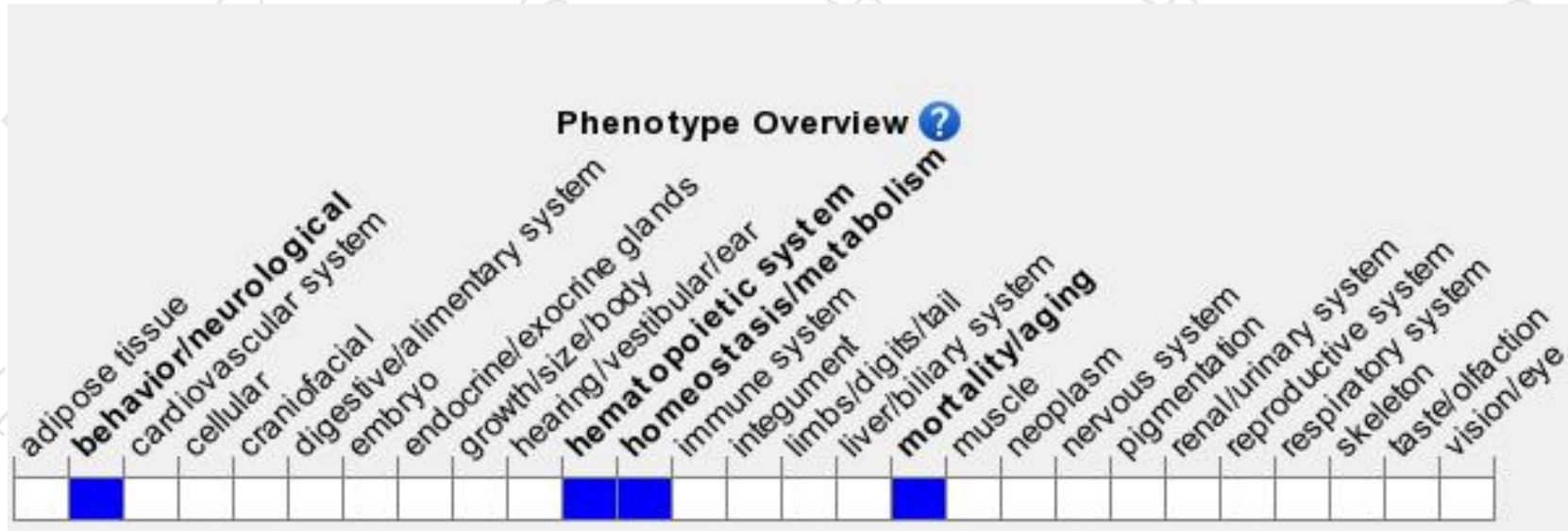
Genomic location distribution



Protein domain



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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