

Chst11 Cas9-KO Strategy

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Project Overview

Project Name

Chst11

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Chst11* gene. The schematic diagram is as follows:



- The *Chst11* gene has 1 transcript. According to the structure of *Chst11* gene, exon2 of *Chst11-201* (ENSMUST00000040110.7) transcript is recommended as the knockout region. The region contains 86bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Chst11* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a null allele exhibit neonatal lethality associated with respiratory distress, dwarfism, and abnormal skeletal structures.
- The *Chst11* gene is located on the Chr10. 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)

Chst11 carbohydrate sulfotransferase 11 [Mus musculus (house mouse)]

Gene ID: 58250, updated on 31-Jan-2019

Summary



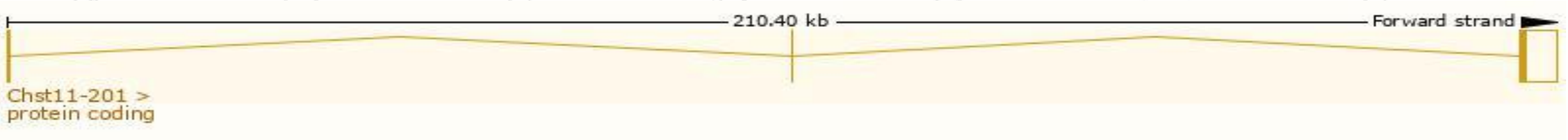
Official Symbol	Chst11 provided by MGI
Official Full Name	carbohydrate sulfotransferase 11 provided by MGI
Primary source	MGI:MGI:1927166
See related	Ensembl:ENSMUSG000000034612
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110020P09Rik, C4ST, C4ST-1, C4ST1, C4s
Expression	Broad expression in ovary adult (RPKM 37.7), adrenal adult (RPKM 14.0) and 20 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

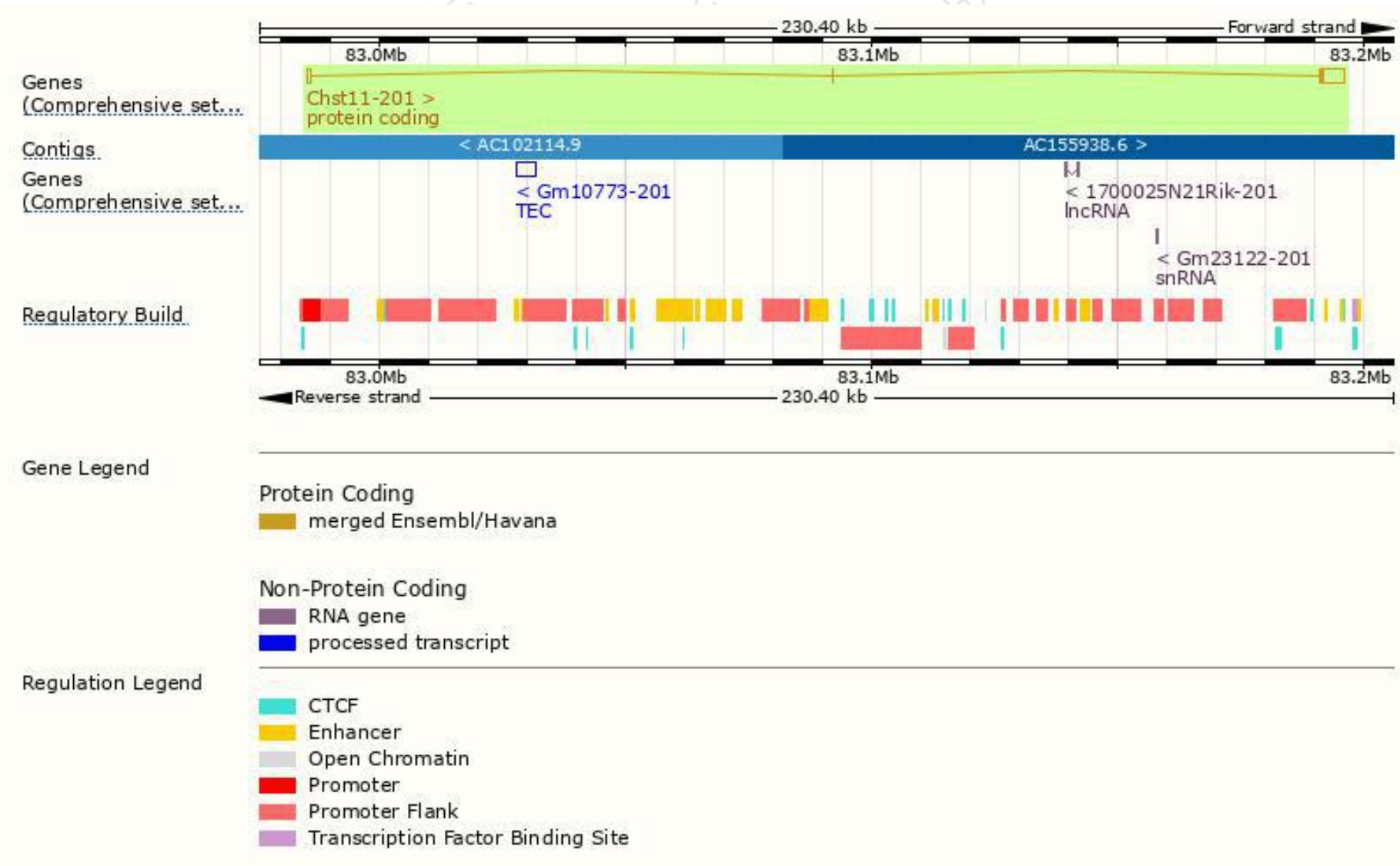
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Chst11-201	ENSMUST00000040110.7	5527	352aa	Protein coding	CCDS24074	B9EHC3 Q9JME2	TSL:1 GENCODE basic APPRIS P1

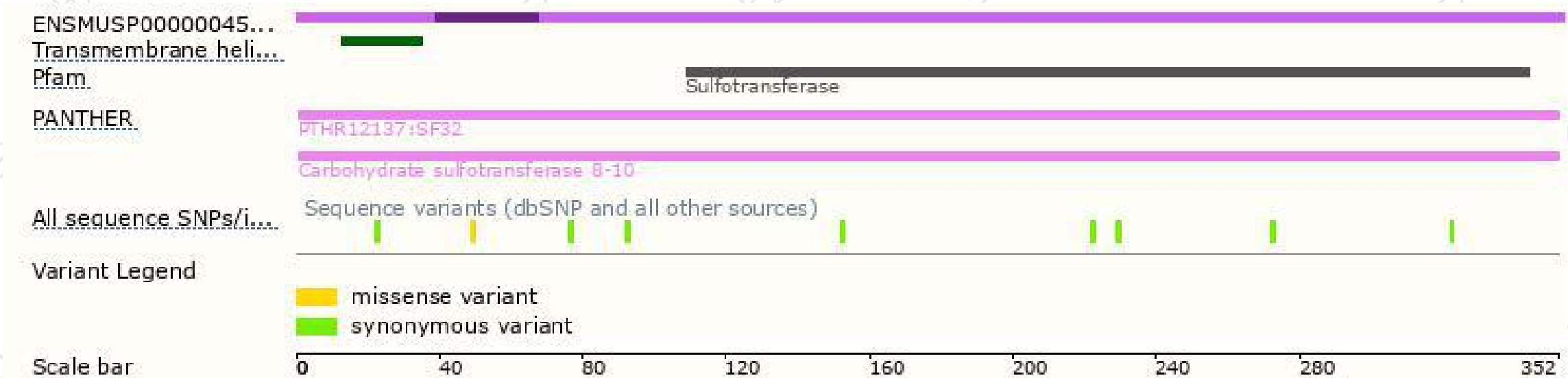
The strategy is based on the design of *Chst11-201* transcript, The transcription is shown below



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/>).

According to the existing MGI data, Mice homozygous for a null allele exhibit neonatal lethality associated with respiratory distress, dwarfism, and abnormal skeletal structures.

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

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