Slc35b1 Cas9-KO Strategy

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Project Overview

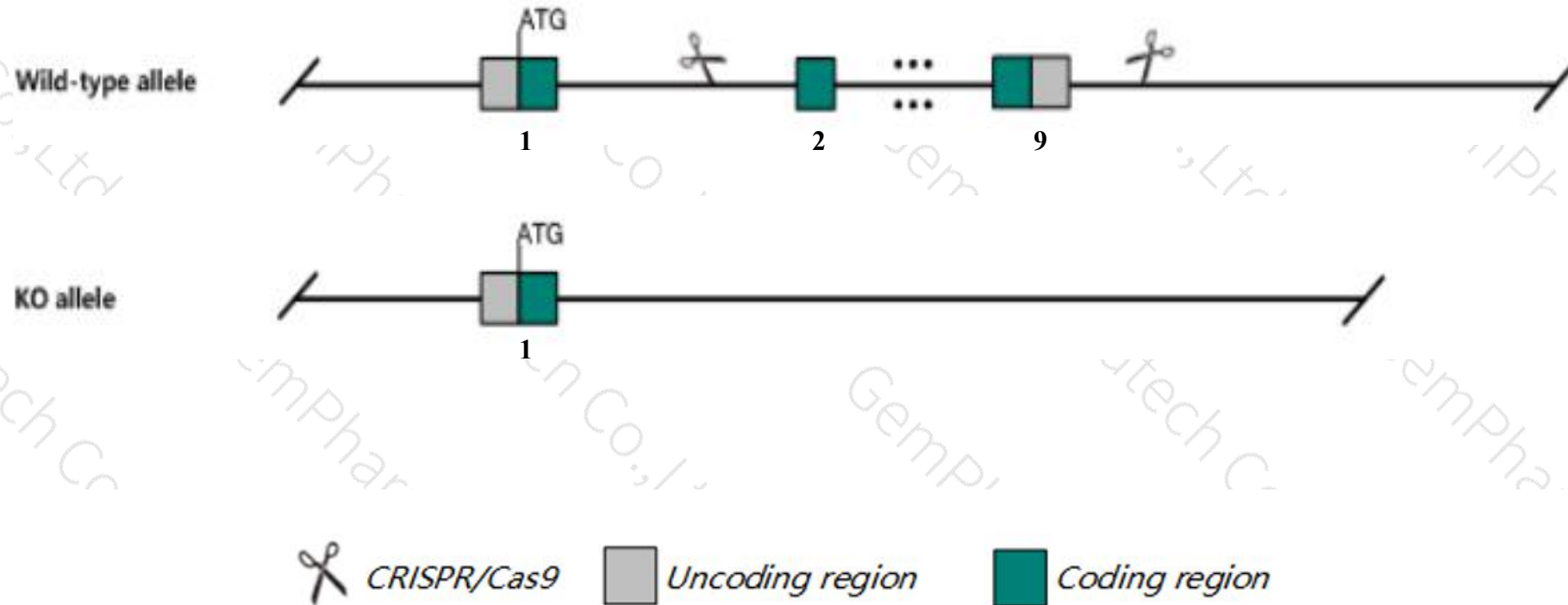|	
Project Name	*Slc35b1*
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slc35b1* gene. The schematic diagram is as follows:

Technical routes

➢ The *Slc35b1* gene has 5 transcripts. According to the structure of *Slc35b1* gene, exon2-exon9 of *Slc35b1-201*(ENSMUST00000021243.15) transcript is recommended as the knockout region.The region contains most coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Slc35b1* gene. The brief process is as follows: gRNA was transcribed in vitro.Cas9 and gRNA 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.

Notice

➢ The *Slc35b1* gene is located on the Chr11. 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）

Slc35b1 solute carrier family 35, member B1 [Mus musculus (house mouse)]

Gene ID: 110172, updated on 13-Mar-2020

▲ Summary

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Official Symbol	Slc35b1 provided by MGI
Official Full Name	solute carrier family 35, member B1 provided by MGI
Primary source	MGI:MGI:1343133
See related	Ensembl:ENSMUSG00000020873
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	UGTrel1, Ugalt2
Expression	Ubiquitous expression in large intestine adult (RPKM 76.5), duodenum adult (RPKM 41.3) and 28 other tissuesSee more
Orthologs	human all

Transcript information（Ensembl）

The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slc35b1-201	ENSMUST00000021243.15	1523	322aa	Protein coding	CCDS25277	A0A384DV64 P97858	TSL:1 GENCODE basic APPRIS P1
Slc35b1-205	ENSMUST00000146556.1	606	153aa	Protein coding	-	E0CZ89	CDS 3' incomplete TSL:3
Slc35b1-202	ENSMUST00000131193.2	1299	156aa	Nonsense mediated decay	-	E0CXH1	TSL:1
Slc35b1-203	ENSMUST00000141284.1	719	No protein	Retained intron	-	-	TSL:2
Slc35b1-204	ENSMUST00000143090.1	529	No protein	Retained intron	-	-	TSL:3

The strategy is based on the design of *Slc35b1-201* transcript,the transcription is shown below:

Slc35b1-201 >
protein coding
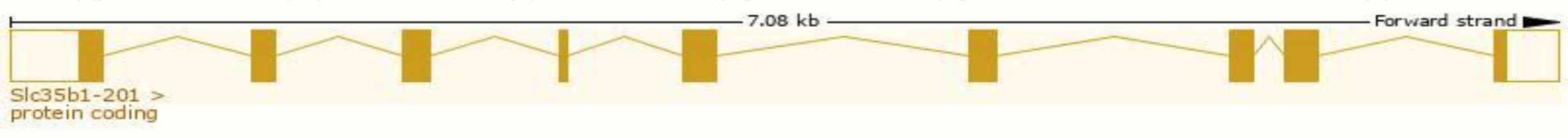
Genomic location distribution
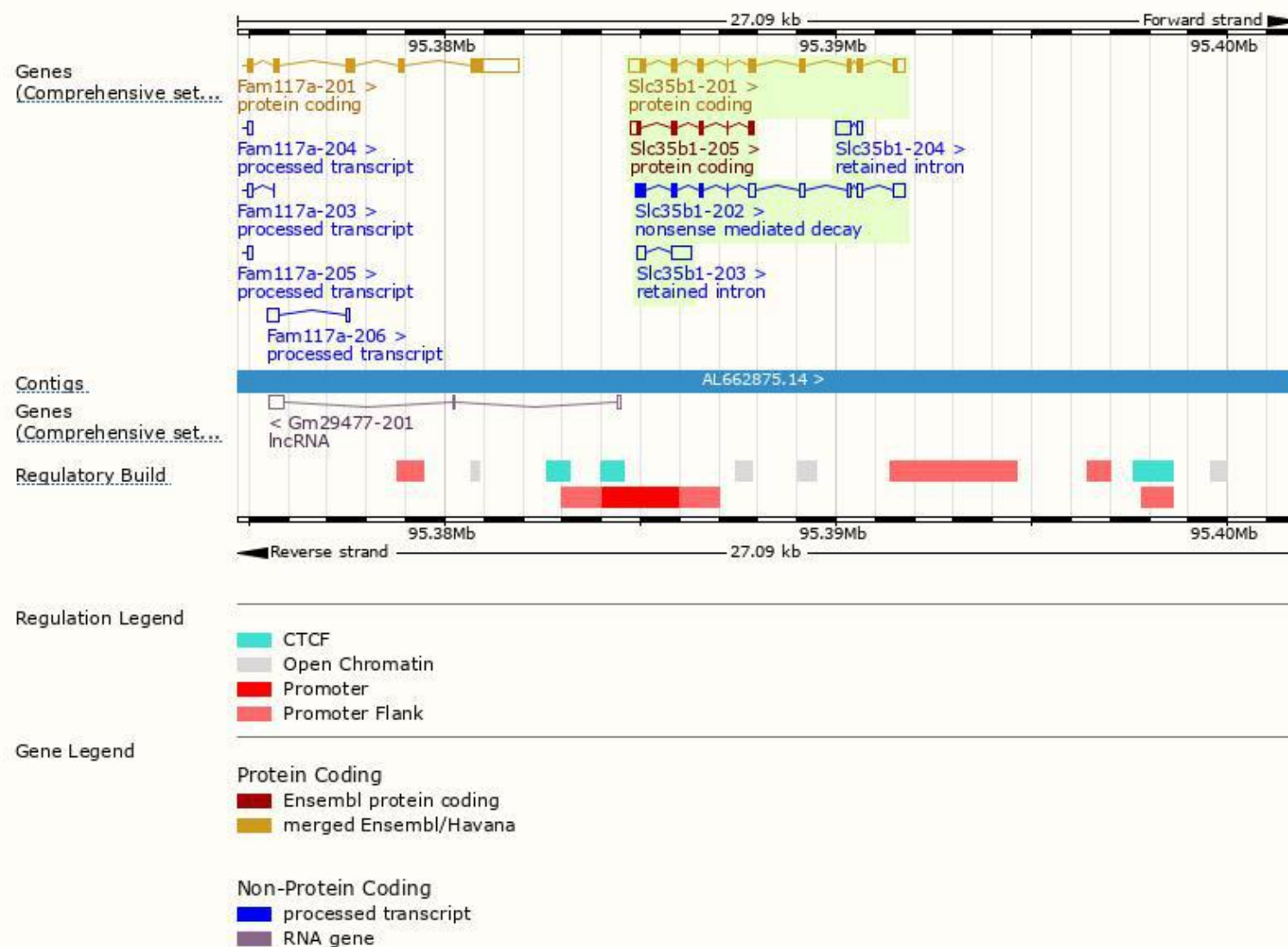
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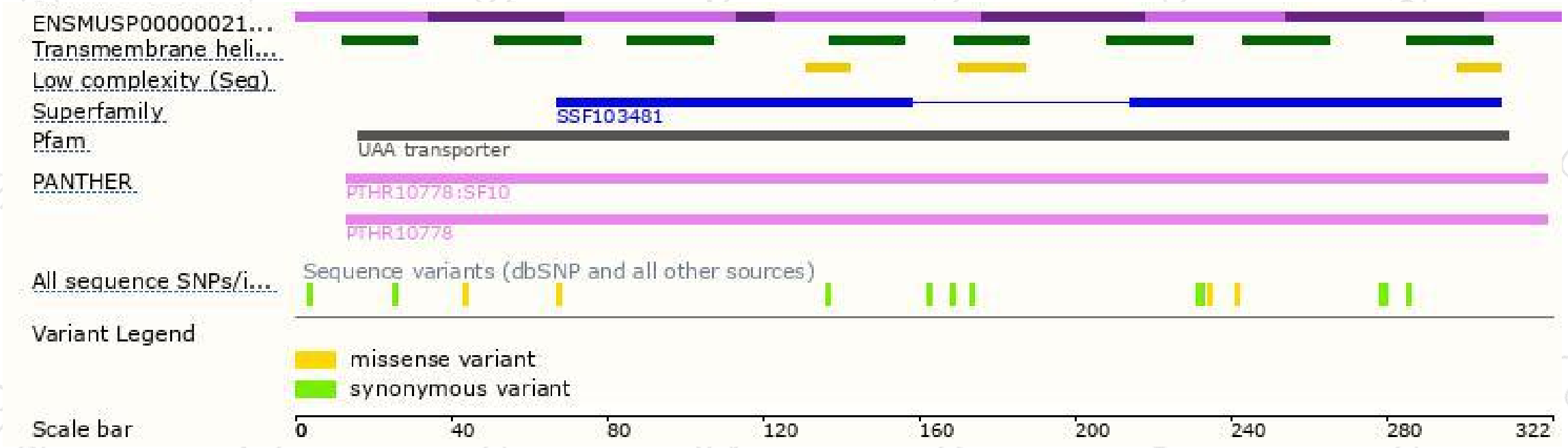
If you have any questions, you are welcome to inquire.
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