Abhd17c Cas9-KO Strategy

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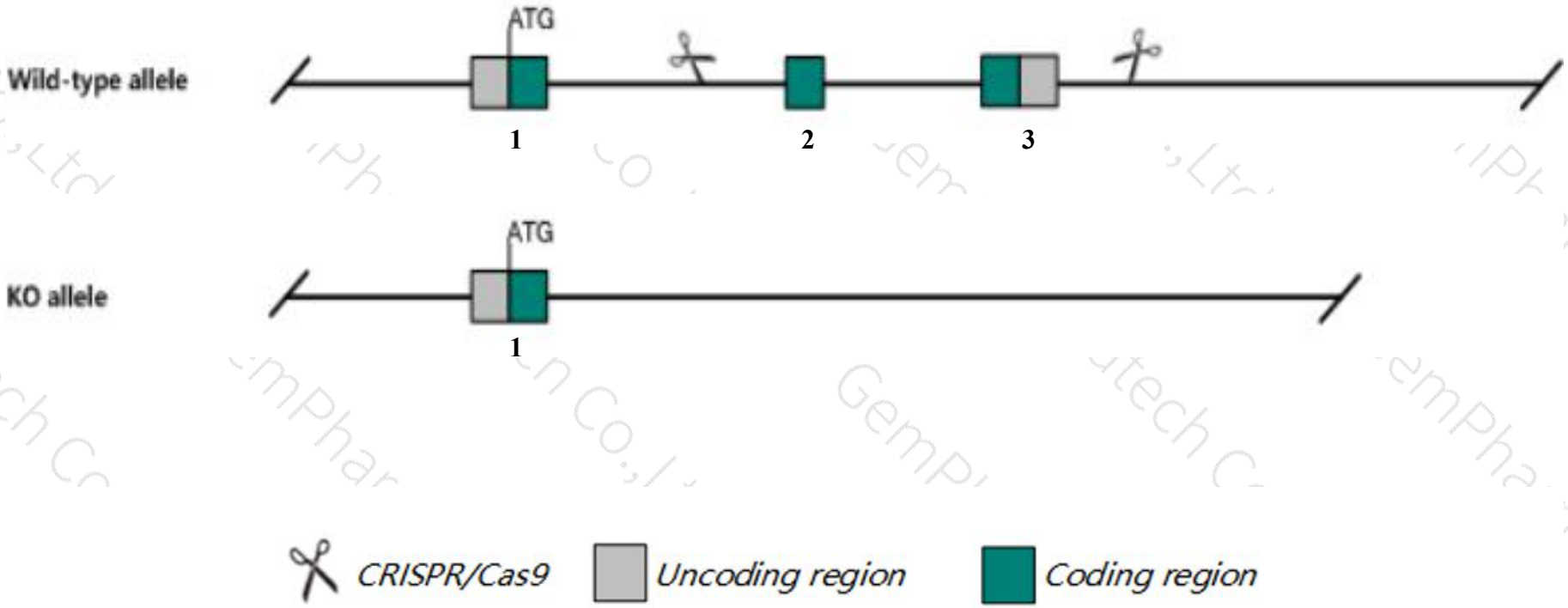
Date:2020-03-11

Project Overview

Project Name	***Abhd17c***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Abhd17c* gene. The schematic diagram is as follows:



Technical routes

➢ The *Abhd17c* gene has 3 transcripts. According to the structure of *Abhd17c* gene, exon2-exon3 of *Abhd17c-201* (ENSMUST00000117085.1) transcript is recommended as the knockout region.The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Abhd17c* gene. The brief process is as follows: CRISPR/Cas9 system v

Notice

➢ Transcript *Abhd17c*-203 may not be affected.

➢ The N-terminal of *Abhd17c* gene will remain several amino acids ,it may remain the partial function of *Abhd17c* gene.

➢ The *Abhd17c* gene is located on the Chr7. 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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Abhd17c abhydrolase domain containing 17C [*Mus musculus* (house mouse)]

Gene ID: 70178, updated on 12-Aug-2019

Summary

Official Symbol	Abhd17c provided by MGI
Official Full Name	abhydrolase domain containing 17C provided by MGI
Primary source	MGI:MGI:1917428
See related	Ensembl:ENSMUSG00000038459
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	Fam108c; AL023007; Fam108c1; 2210412D01Rik
Expression	Ubiquitous expression in small intestine adult (RPKM 86.1), colon adult (RPKM 84.3) and 28 other tissues See more
Orthologs	human all

Genomic context

Location: 7; 7 D3

See Abhd17c in Genome Data Viewer

Exon count: 3

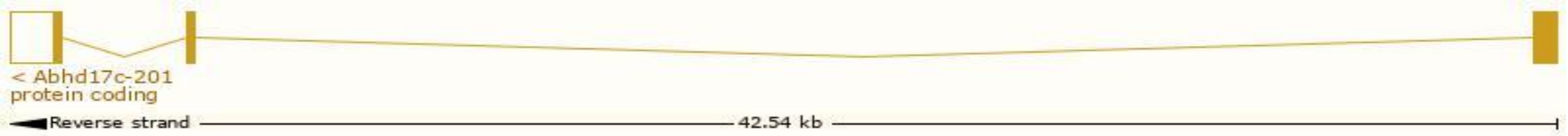
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	7	NC_000073.6 (84109356..84151893, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	7	NC_000073.5 (91257866..91300403, complement)

Transcript information（Ensembl）

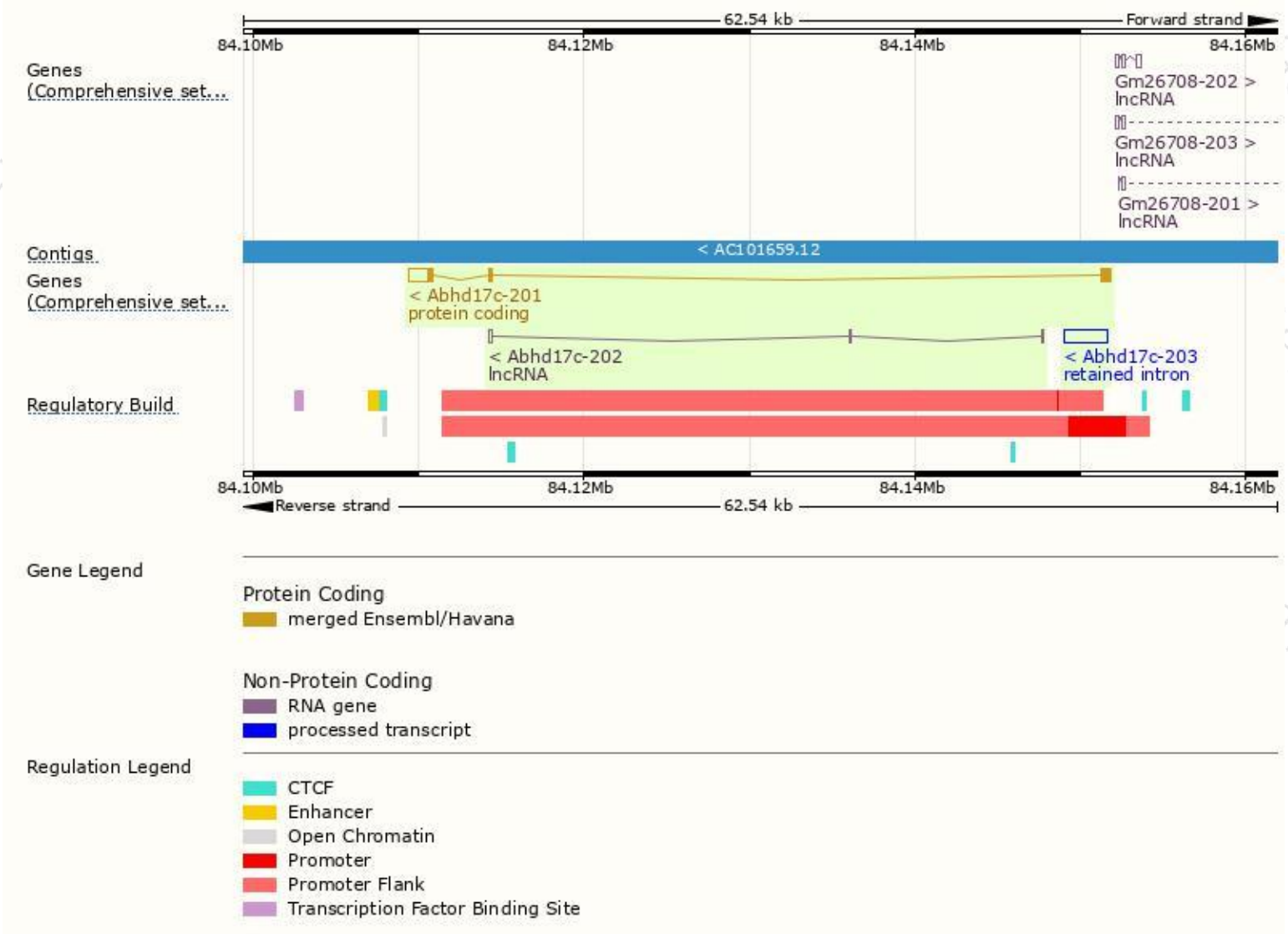
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Abhd17c-201	ENSMUST00000117085.1	2238	320aa	Protein coding	CCDS21417	Q8VCV1	TSL:1 GENCODE basic APPRIS P1
Abhd17c-203	ENSMUST00000208271.1	2580	No protein	Retained intron	-	-	TSL:NA
Abhd17c-202	ENSMUST00000131505.1	357	No protein	lncRNA	-	-	TSL:3

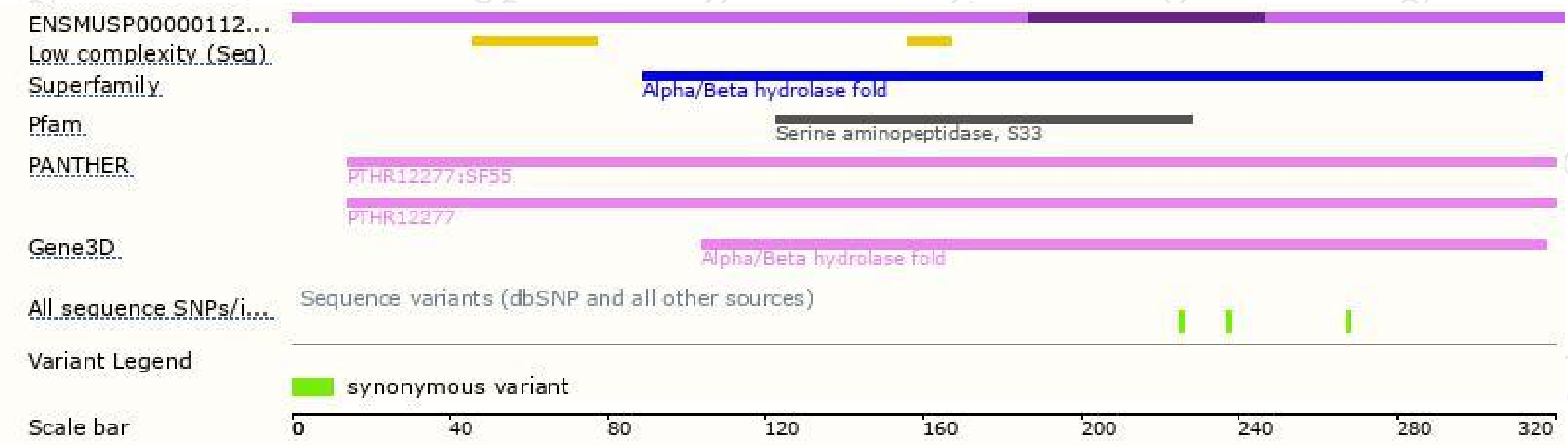
The strategy is based on the design of *Abhd17c-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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