Cdh18 Cas9-KO Strategy

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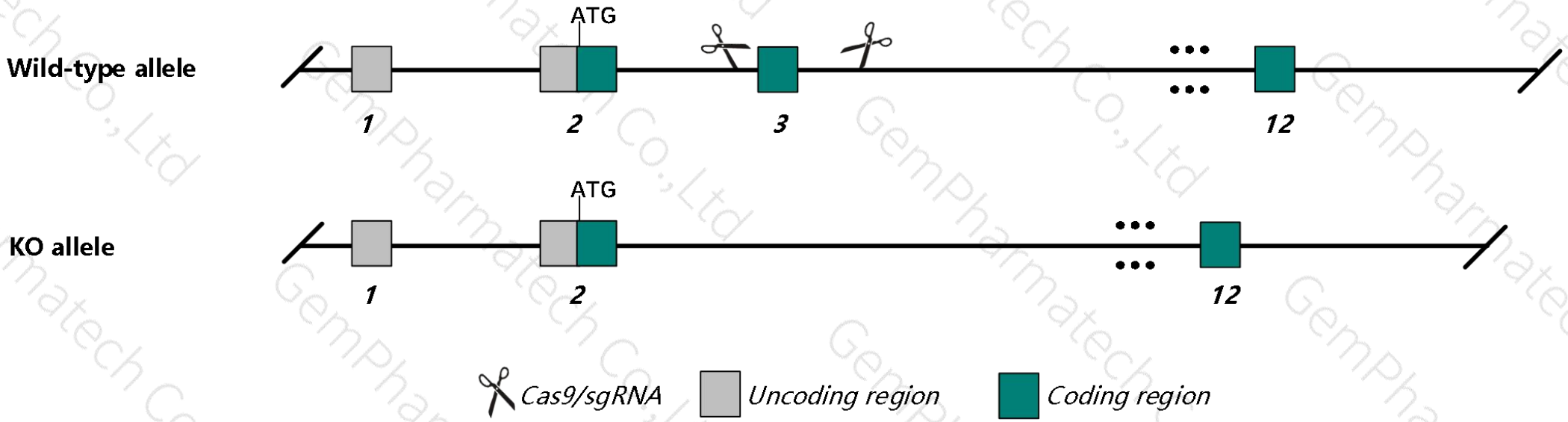
Project Overview

Project Name	***Cdh18***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cdh18* gene. The schematic diagram is as follows:



Technical routes

➢ The *Cdh18* gene has 7 transcripts. According to the structure of *Cdh18* gene, exon3 of *Cdh18-203* (ENSMUST00000164787.7) transcript is recommended as the knockout region.The region contains 295bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Cdh18* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

➢ The *Cdh18* gene is located on the Chr15. 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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Cdh18 cadherin 18 [*Mus musculus* (house mouse)]

Gene ID: 320865, updated on 13-Mar-2020

Summary

Official Symbol	Cdh18 provided by MGI
Official Full Name	cadherin 18 provided by MGI
Primary source	MGI:MGI:1344366
See related	Ensembl:ENSMUSG00000040420
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	Cdh14l; B230220E17Rik; Tg(GFAP-APOE_i4)1Hol
Expression	Biased expression in cerebellum adult (RPKM 8.0), cortex adult (RPKM 2.6) and 5 other tissues See more
Orthologs	human all

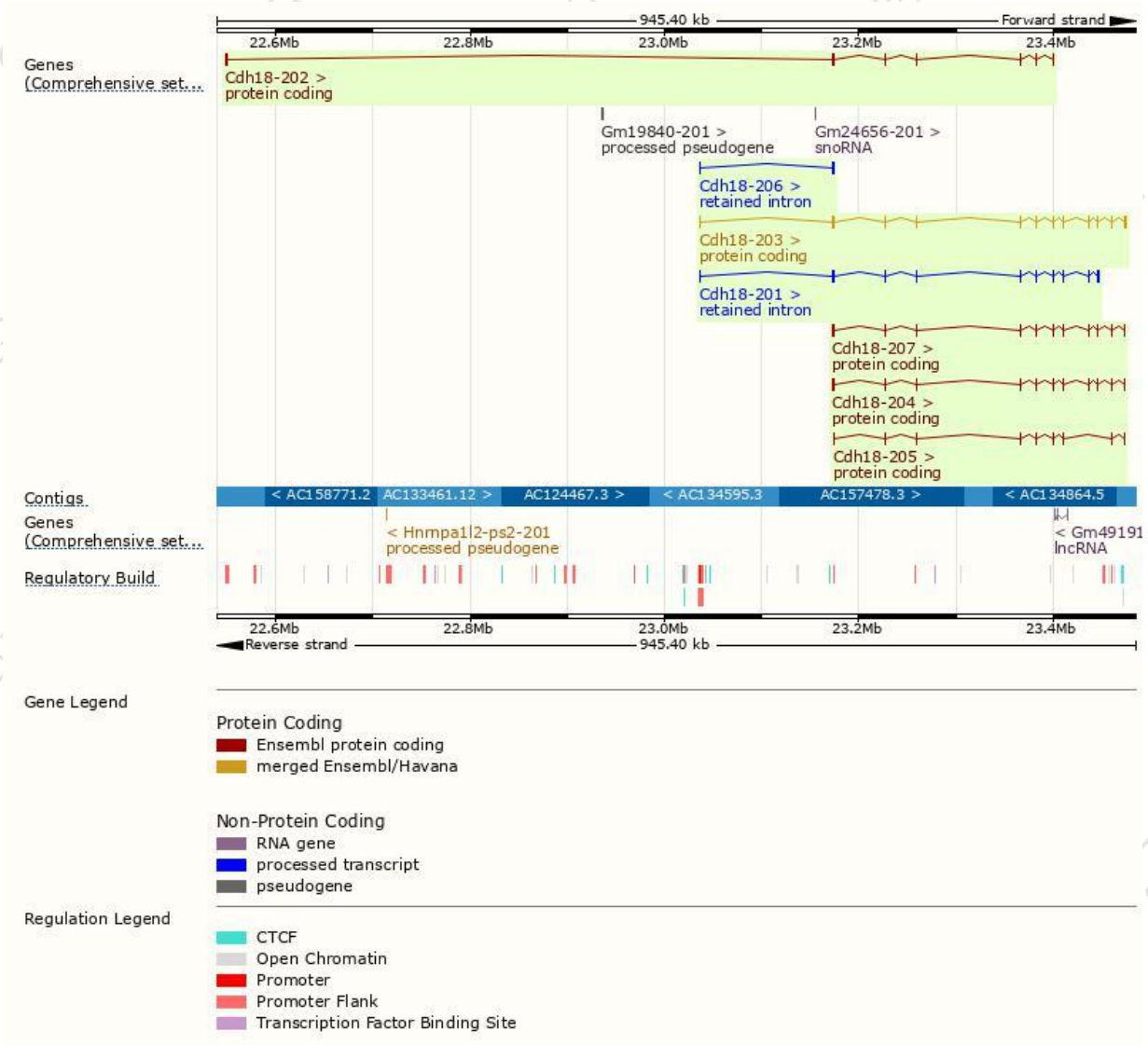
Transcript information（Ensembl）

The gene has 7 transcripts,all transcripts are shown below:

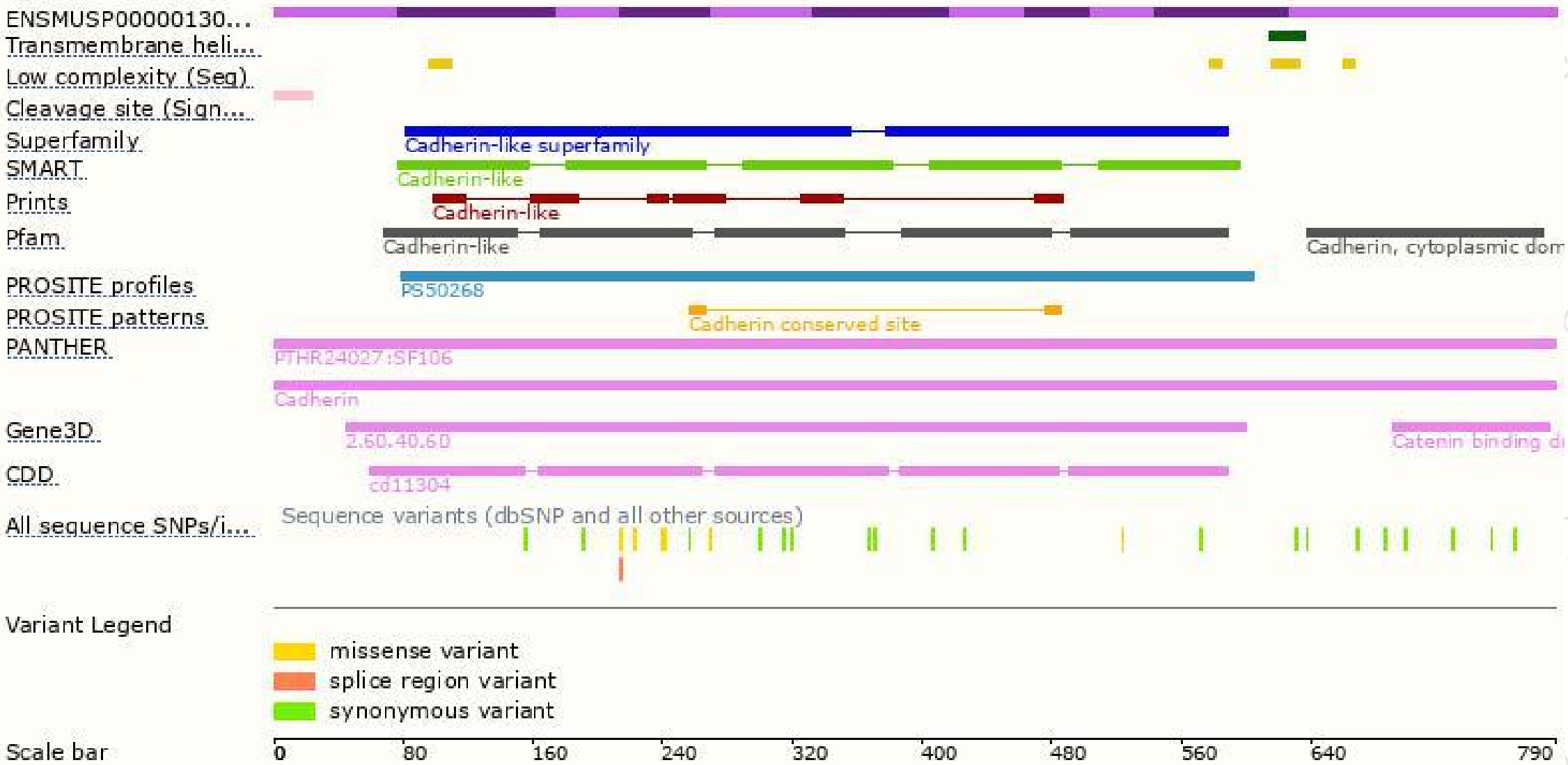
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cdh18-203	ENSMUST00000164787.7	2744	790aa	Protein coding	CCDS49585	E9Q9Q6	TSL:5 GENCODE basic APPRIS P1
Cdh18-207	ENSMUST00000226693.1	2165	575aa	Protein coding	-	A0A2I3BPS8	GENCODE basic
Cdh18-204	ENSMUST00000165614.8	2162	574aa	Protein coding	-	E9Q941	TSL:5 GENCODE basic
Cdh18-202	ENSMUST00000163361.7	1534	337aa	Protein coding	-	Q8BLB5	CDS 3' incomplete TSL:5
Cdh18-205	ENSMUST00000167623.1	1476	441aa	Protein coding	-	F6RSC2	CDS 5' incomplete TSL:5
Cdh18-201	ENSMUST00000040427.13	2320	No protein	Retained intron	-	-	TSL:1
Cdh18-206	ENSMUST00000170626.1	1819	No protein	Retained intron	-	-	TSL:1

The strategy is based on the design of *Cdh18-203* 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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