Hsd17b3 Cas9-KO Strategy

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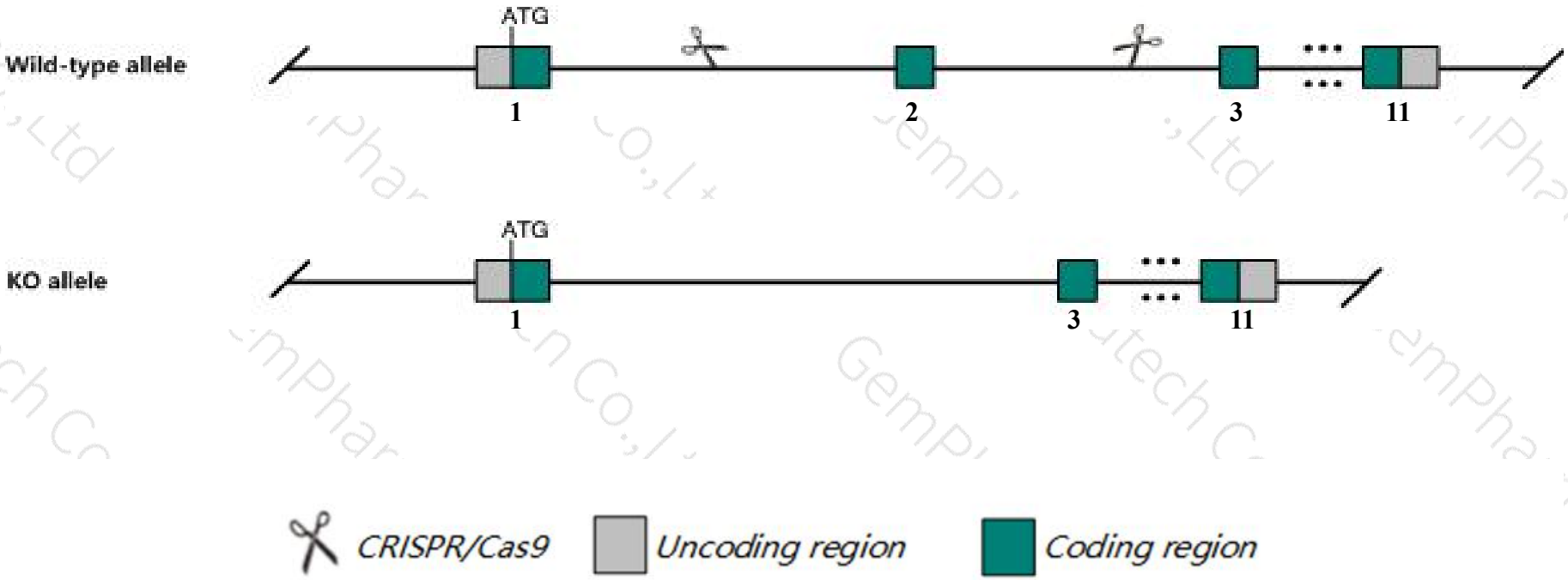
Project Overview

Project Name	***Hsd17b3***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Hsd17b3* gene. The schematic diagram is as follows:



Technical routes

➢ The *Hsd17b3* gene has 5 transcripts. According to the structure of *Hsd17b3* gene, exon2 of *Hsd17b3-202* (ENSMUST00000166224.7) transcript is recommended as the knockout region.The region contains 47bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Hsd17b3* gene. The brief process is as follows: CRISPR/Cas9 syst

Notice

➢Transcript *Hsd17b3-203* may not be affected.

➢ The *Hsd17b3* gene is located on the Chr13. 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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Hsd17b3 hydroxysteroid (17-beta) dehydrogenase 3 [Mus musculus (house mouse)]

Gene ID: 15487, updated on 5-Feb-2019

Summary

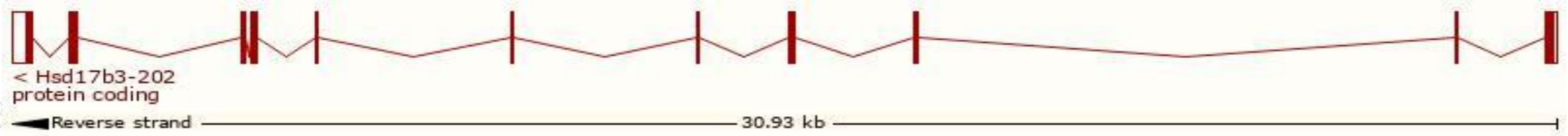
Official Symbol	Hsd17b3 provided by MGI
Official Full Name	hydroxysteroid (17-beta) dehydrogenase 3 provided byMGI
Primary source	MGI:MGI:107177
See related	Ensembl:ENSMUSG00000033122
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Expression	Restricted expression toward testis adult (RPKM 6.2)See more
Orthologs	human all

Transcript information（Ensembl）

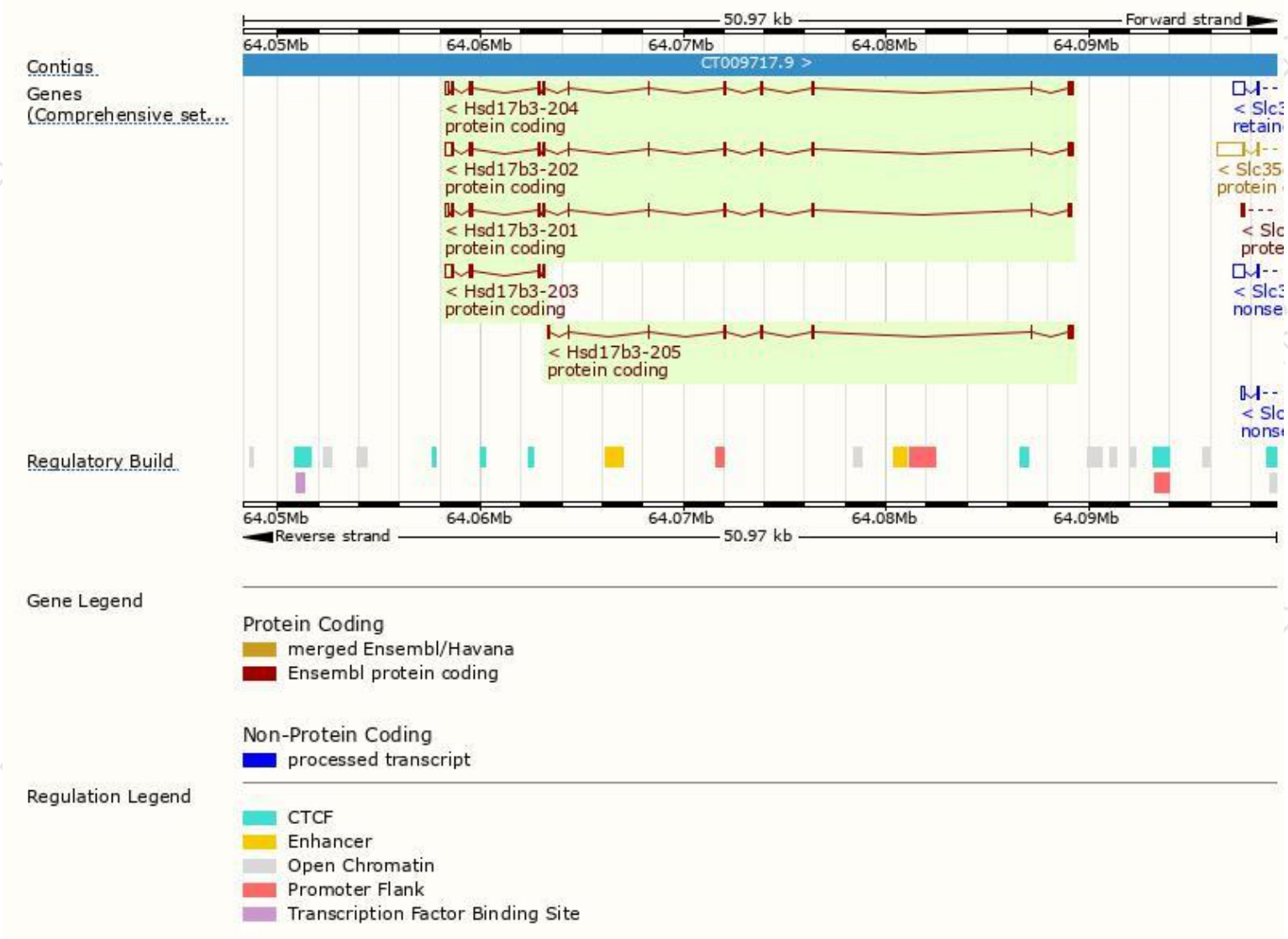
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Hsd17b3-202	ENSMUST00000166224.7	1286	305aa	Protein coding	CCDS26594	P70385	TSL:2 GENCODE basic APPRIS P1
Hsd17b3-204	ENSMUST00000222783.1	1184	305aa	Protein coding	CCDS26594	P70385	TSL:5 GENCODE basic APPRIS P1
Hsd17b3-201	ENSMUST00000039832.6	1131	305aa	Protein coding	CCDS26594	P70385	TSL:1 GENCODE basic APPRIS P1
Hsd17b3-203	ENSMUST00000221513.1	655	123aa	Protein coding	-	A0A1Y7VJL6	CDS 5' incomplete TSL:5
Hsd17b3-205	ENSMUST00000222810.1	653	193aa	Protein coding	-	A0A1Y7VJ36	CDS 3' incomplete TSL:3

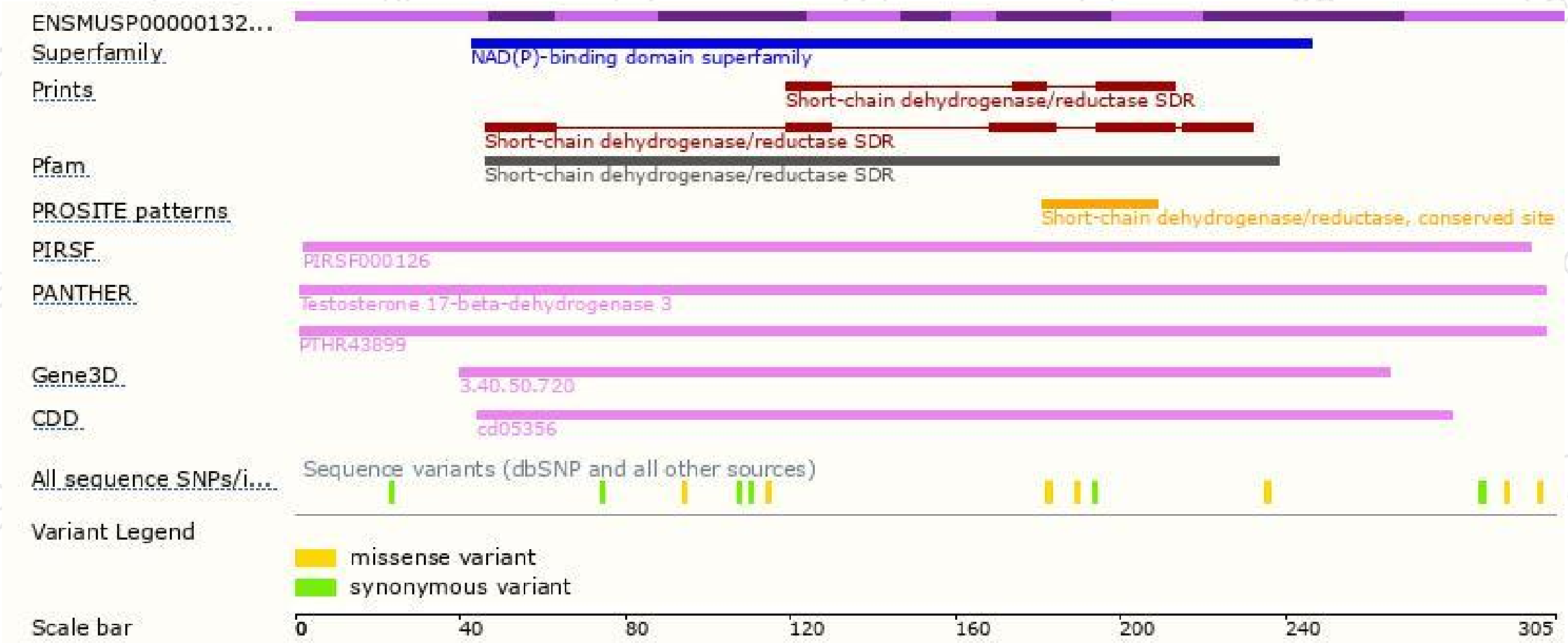
The strategy is based on the design of *Hsd17b3-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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