

Hacd3 Cas9-KO Strategy

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Project Overview

Project Name

Hacd3

Project type

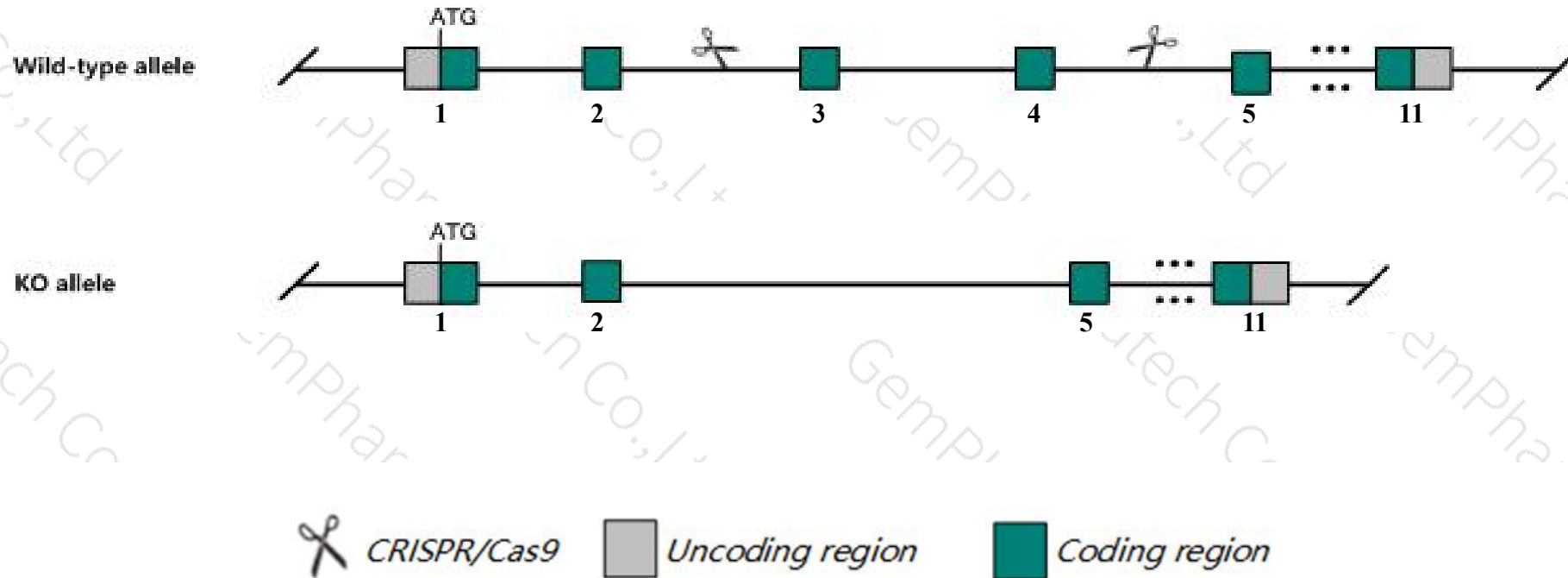
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Hacd3* gene. The schematic diagram is as follows:



- The *Hacd3* gene has 1 transcript. According to the structure of *Hacd3* gene, exon3-exon4 of *Hacd3-201* (ENSMUST00000036615.6) transcript is recommended as the knockout region. The region contains 239bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Hacd3* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Hacd3* gene is located on the Chr9. 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)

Hacd3 3-hydroxyacyl-CoA dehydratase 3 [*Mus musculus* (house mouse)]

Gene ID: 57874, updated on 16-Jul-2019

Summary

Official Symbol Hacd3 provided by [MGI](#)

Official Full Name 3-hydroxyacyl-CoA dehydratase 3 provided by [MGI](#)

Primary source [MGI:MGI:1889341](#)

See related [Ensembl:ENSMUSG000000033629](#)

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 Hcad3; B-ind1; Hspc121; Ptplad1; AW742319; 4930523M17Rik

Expression Ubiquitous expression in adrenal adult (RPKM 48.9), ovary adult (RPKM 29.3) and 28 other tissues [See more](#)

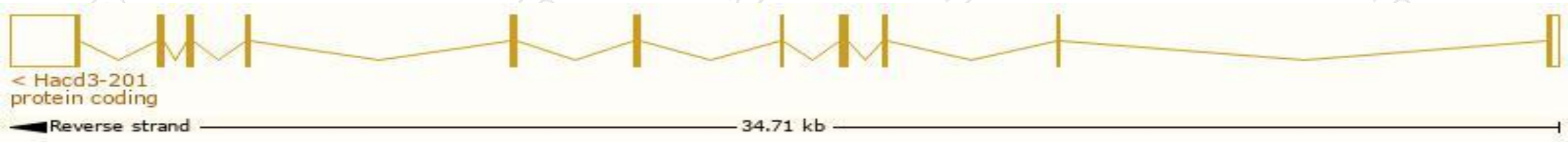
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

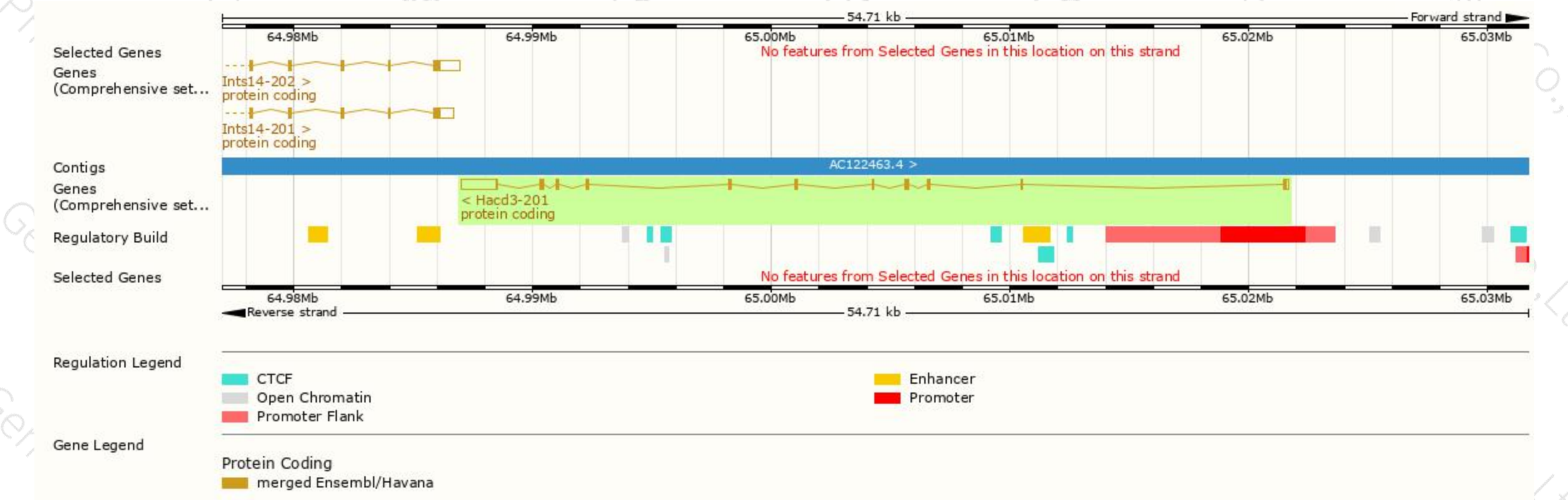
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Hacd3-201	ENSMUST00000036615.6	2709	362aa	Protein coding	CCDS23284	Q8K2C9	TSL:1 GENCODE basic APPRIS P1

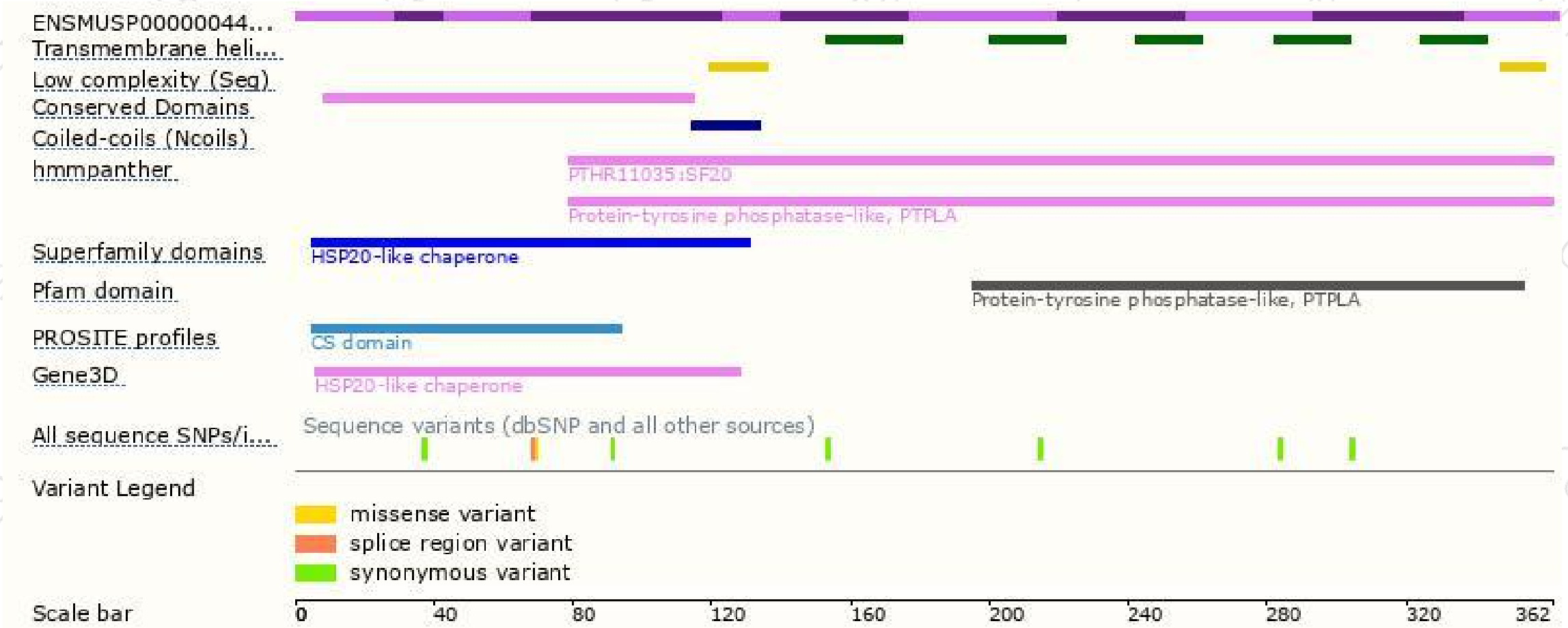
The strategy is based on the design of *Hacd3-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

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