

Ehd3 Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Ehd3

Project type

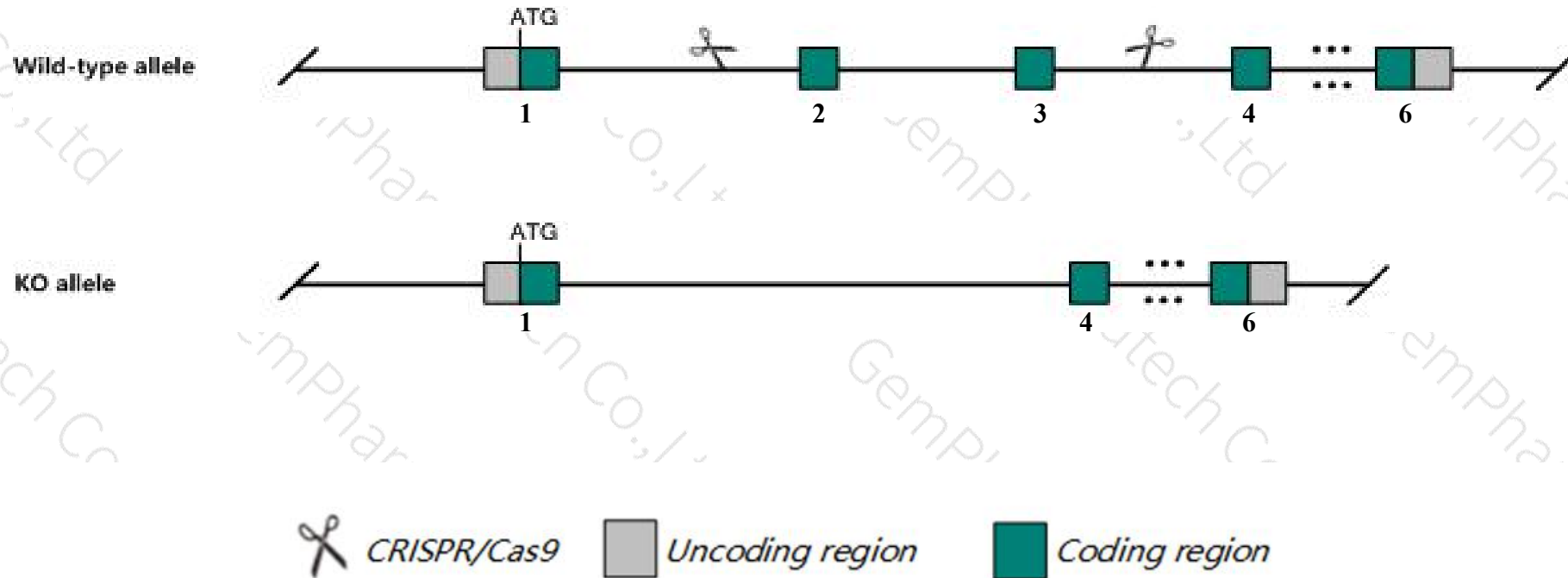
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ehd3* gene. The schematic diagram is as follows:



- The *Ehd3* gene has 2 transcripts. According to the structure of *Ehd3* gene, exon2-exon3 of *Ehd3-201* (ENSMUST00000024860.8) transcript is recommended as the knockout region. The region contains 275bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ehd3* gene. The brief process is as follows: CRISPR/Cas9 system we

- According to the existing MGI data, mice homozygous for a knock-out allele are healthy and fertile.
- The *Ehd3* gene is located on the Chr17. 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)

Ehd3 EH-domain containing 3 [*Mus musculus* (house mouse)]

Gene ID: 57440, updated on 12-Aug-2019

Summary

Official Symbol Ehd3 provided by [MGI](#)
Official Full Name EH-domain containing 3 provided by [MGI](#)
Primary source [MGI:MGI:1928900](#)
See related [Ensembl:ENSMUSG00000024065](#)
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 Ehd2
Expression Ubiquitous expression in kidney adult (RPKM 16.6), cerebellum adult (RPKM 16.4) and 28 other tissues [See more](#)
Orthologs [human](#) [all](#)

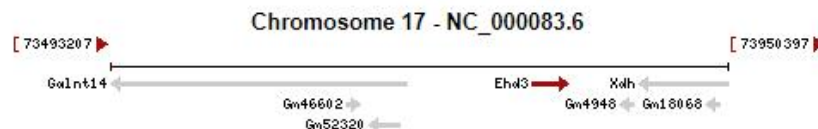
Genomic context

Location: 17 E2; 17 45.2 cM

See Ehd3 in [Genome Data Viewer](#)

Exon count: 6

Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	17	NC_000083.6 (73804841..73832093)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	17	NC_000083.5 (74154181..74181433)

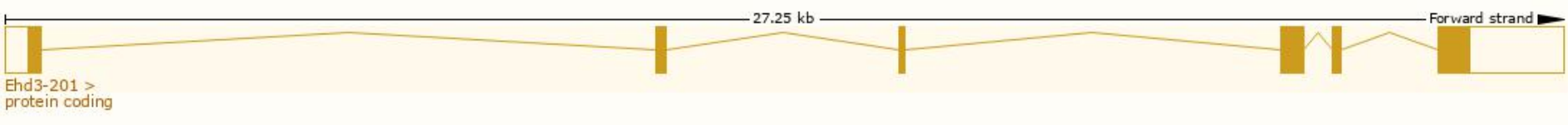


Transcript information (Ensembl)

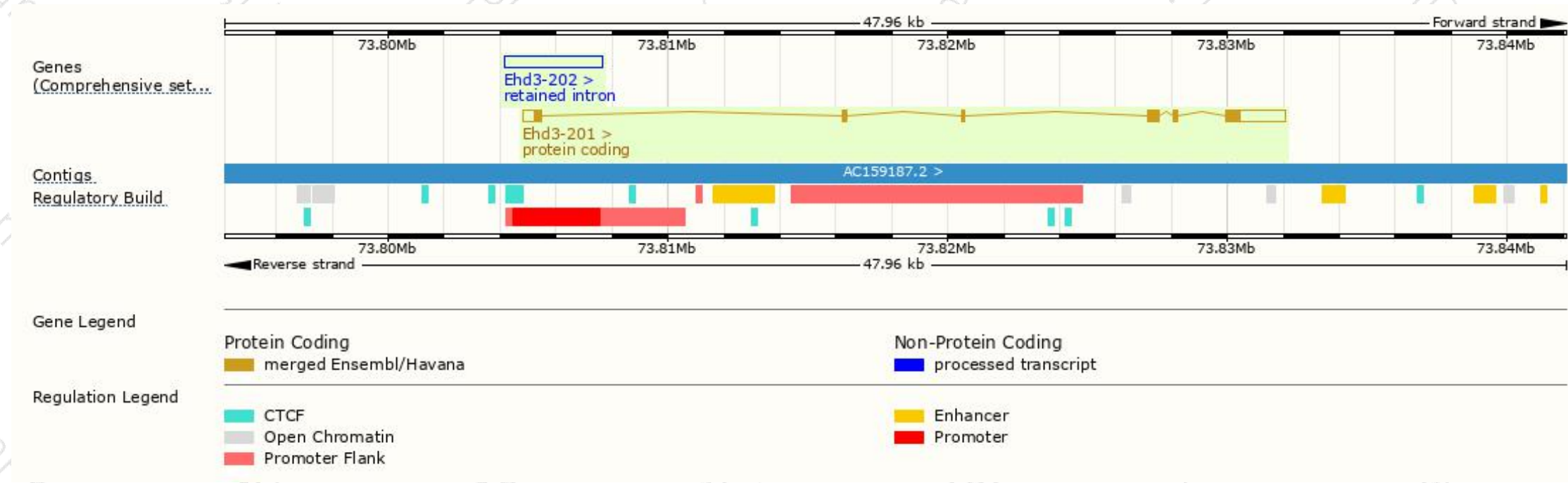
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ehd3-201	ENSMUST00000024860.8	3659	535aa	Protein coding	CCDS28966	Q9QXY6	TSL:1 GENCODE basic APPRIS P1
Ehd3-202	ENSMUST000000233212.1	3528	No protein	Retained intron	-	-	-

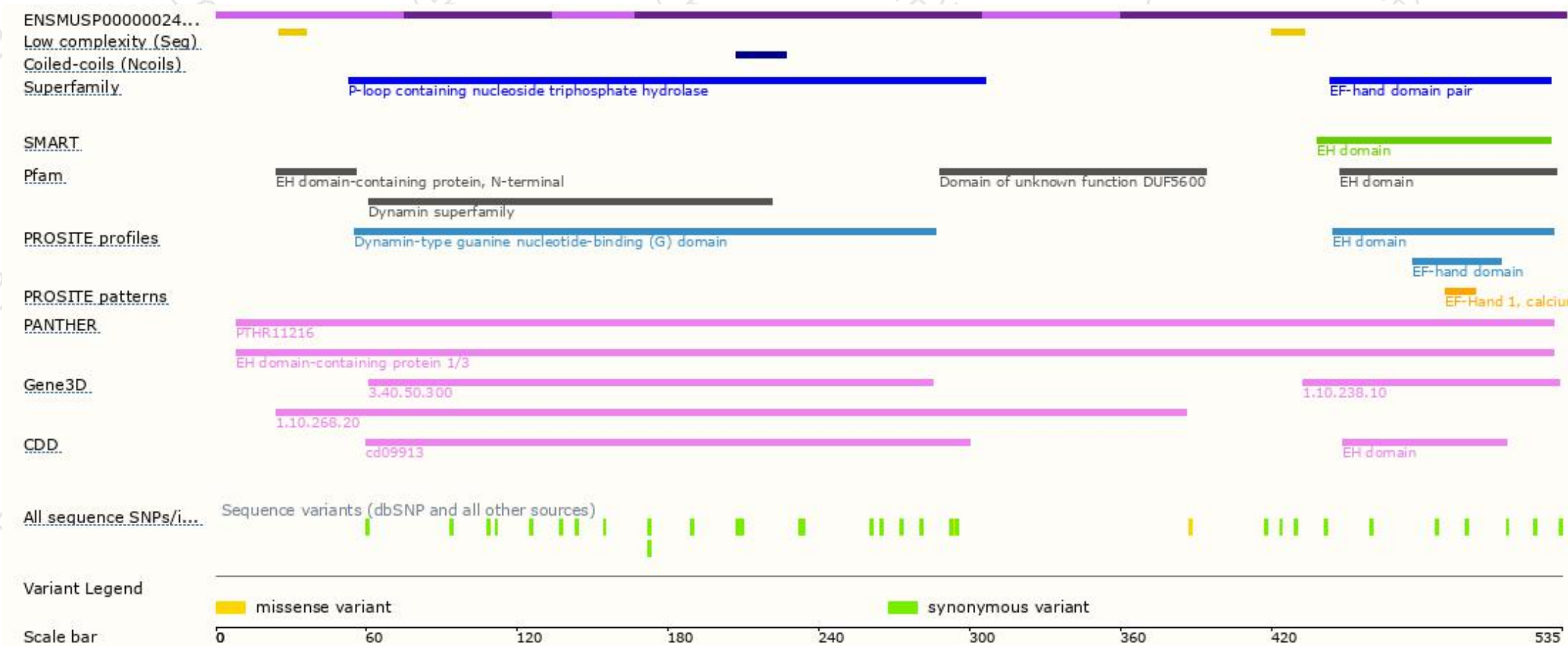
The strategy is based on the design of *Ehd3-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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