

# ***Zdhhc19* Cas9-KO Strategy**

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# Project Overview

**Project Name**

***Zdhhc19***

**Project type**

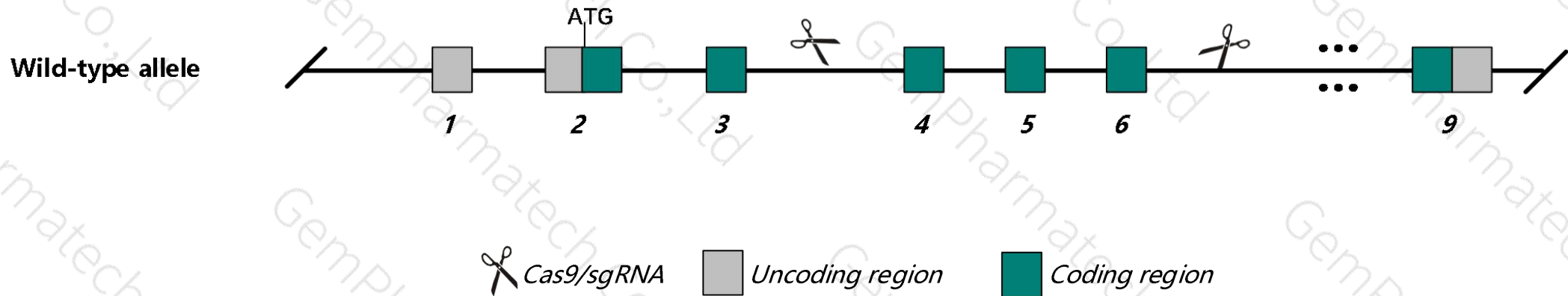
**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zdhhc19* gene. The schematic diagram is as follows:



- The *Zdhhc19* gene has 5 transcripts. According to the structure of *Zdhhc19* gene, exon4-exon6 of *Zdhhc19-201* (ENSMUST00000064192.7) transcript is recommended as the knockout region. The region contains 419bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zdhhc19* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Zdhhc19* gene is located on the Chr16. 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)

## Zdhhc19 zinc finger, DHHC domain containing 19 [ *Mus musculus* (house mouse) ]

Gene ID: 245308, updated on 13-Mar-2020

### Summary

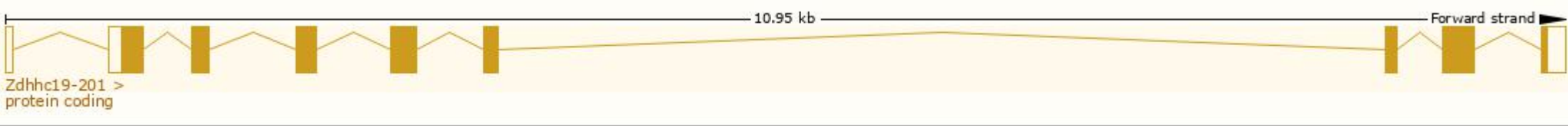
Official Symbol	Zdhhc19 provided by <a href="#">MGI</a>
Official Full Name	zinc finger, DHHC domain containing 19 provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:2682948</a>
See related	<a href="#">Ensembl:ENSMUSG000000052363</a>
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	<a href="#">Mus musculus</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Gm616; Gm1744
Expression	Restricted expression toward testis adult (RPKM 76.6) <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

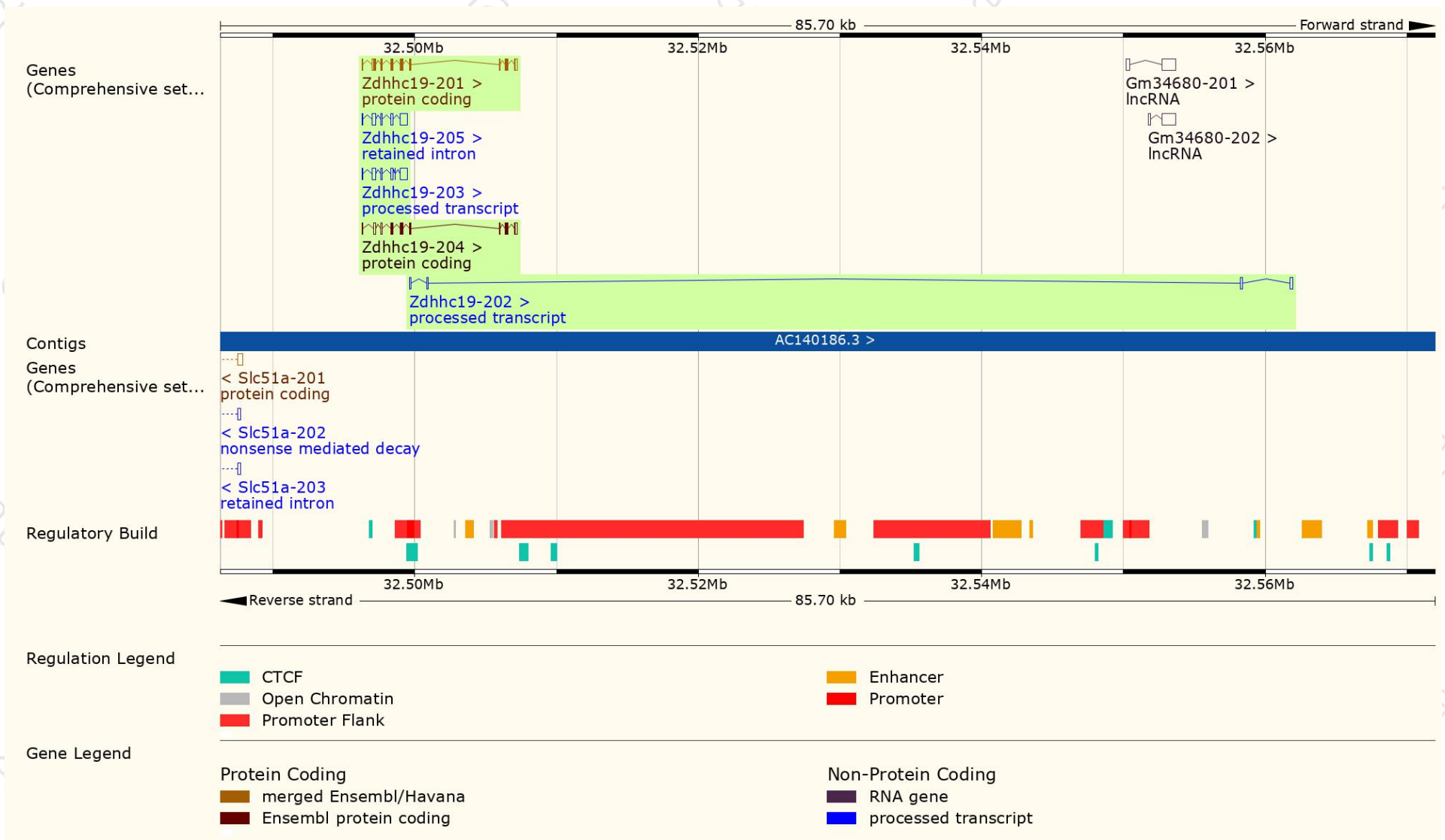
The gene has 5 transcripts,all transcripts are shown below:

Name ▲	Transcript ID ▲	bp ▲	Protein ▲	Biotype ▲	CCDS ▲	UniProt ▲	Flags ▲
Zdhhc19-201	<a href="#">ENSMUST00000064192.7</a>	1323	<a href="#">347aa</a>	Protein coding	<a href="#">CCDS28122</a>	<a href="#">Q810M5</a>	TSL:1 GENCODE basic APPRIS P2
Zdhhc19-202	<a href="#">ENSMUST00000160832.1</a>	631	No protein	Processed transcript	-	-	TSL:3
Zdhhc19-203	<a href="#">ENSMUST00000231293.1</a>	1098	No protein	Processed transcript	-	-	-
Zdhhc19-204	<a href="#">ENSMUST00000231510.1</a>	1181	<a href="#">251aa</a>	Protein coding	-	<a href="#">A0A338P7I3</a>	GENCODE basic APPRIS ALT2
Zdhhc19-205	<a href="#">ENSMUST00000232434.1</a>	1067	No protein	Retained intron	-	-	-

The strategy is based on the design of *Zdhhc19-201* transcript,The transcription is shown below

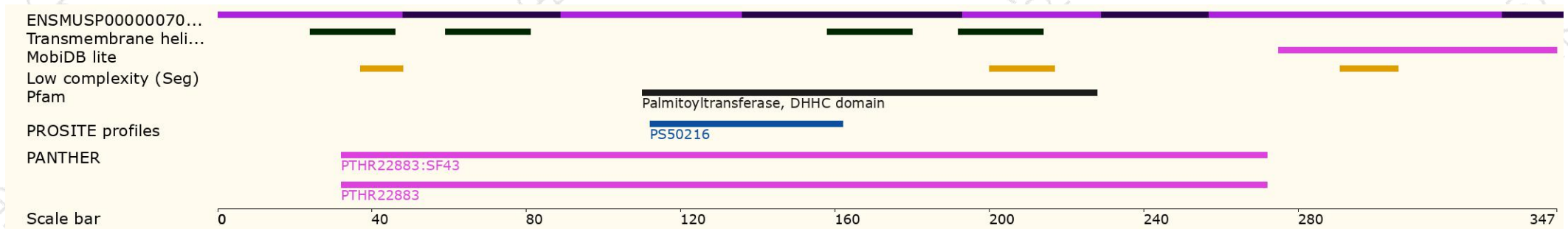


# Genomic location distribution





# Protein domain



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

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