Zdhhc5 Cas9-KO Strategy

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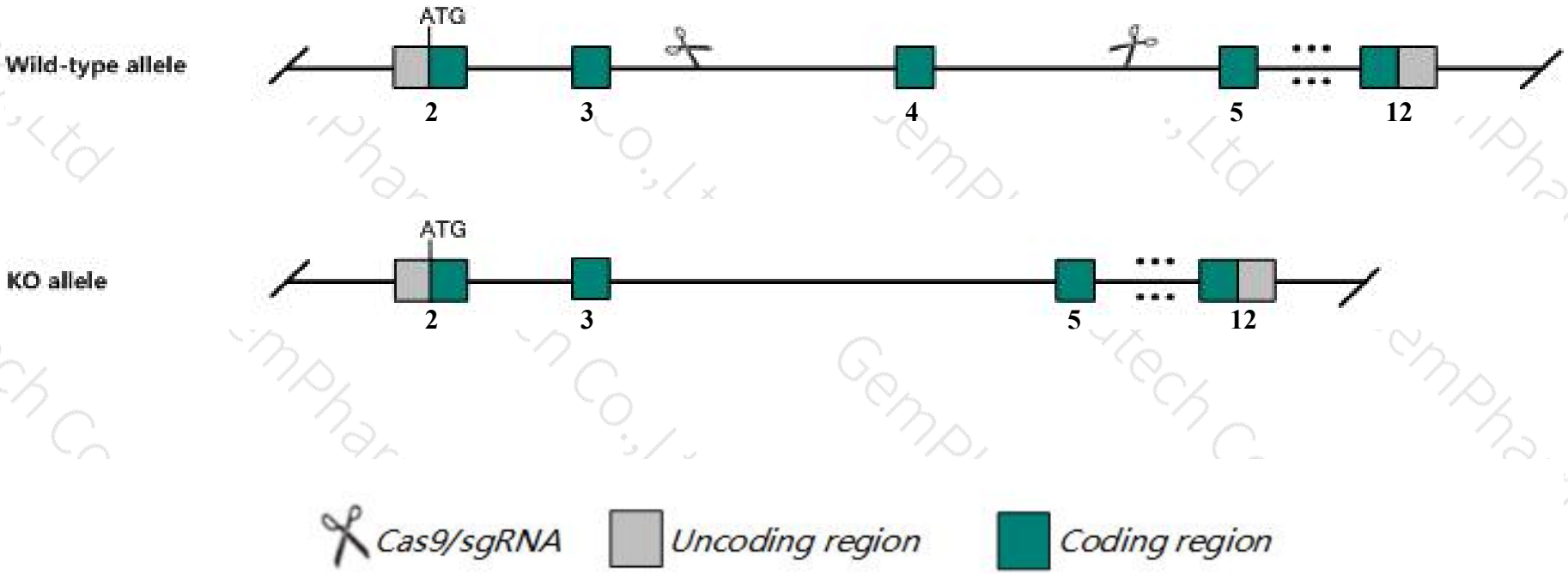
Project Overview

Project Name	***Zdhhc5***
Project type	**Cas9-KO**
Strain background	**C57BL/6J**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zdhhc5* gene. The schematic diagram is as follows:



Technical routes

- The *Zdhhc5* gene has 3 transcripts. According to the structure of *Zdhhc5* gene, exon4 of *Zdhhc5-201* (ENSMUST00000035840.5) transcript is recommended as the knockout region.The region contains 158bp coding sequence. Knock out the region will result in disruption of protein function.

- In this project we use CRISPR/Cas9 technology to modify *Zdhhc5* gene. The brief process is as follows: sgRNA was transcribed in vitro.Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6J mice.Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6J mice.

Notice

- The *Zdhhc5* gene is located on the Chr2. 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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Zdhhc5 zinc finger, DHHC domain containing 5 [Mus musculus (house mouse)]

Gene ID: 228136, updated on 19-Feb-2019

Summary

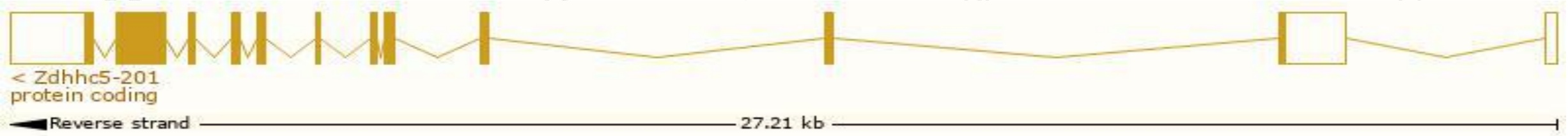
Official Symbol	Zdhhc5 provided by MGI
Official Full Name	zinc finger, DHHC domain containing 5 provided by MGI
Primary source	MGI:MGI:1923573
See related	Ensembl:ENSMUSG00000034075
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110032A17Rik, AI451382, Zisp
Expression	Ubiquitous expression in testis adult (RPKM 102.3), colon adult (RPKM 27.5) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

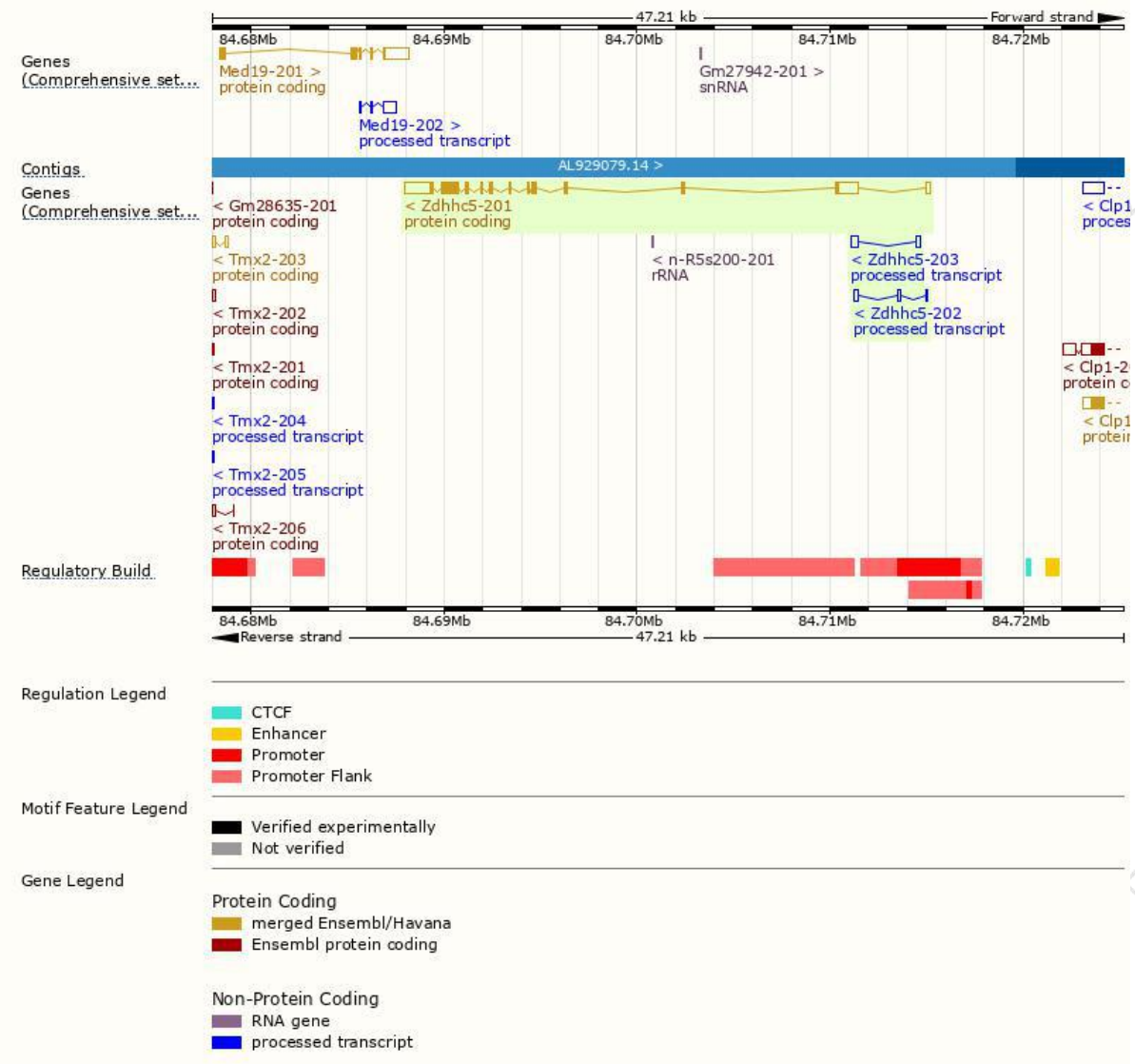
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zdhhc5-201	ENSMUST00000035840.5	4706	715aa	Protein coding	CCDS16190	Q8VDZ4	TSL:1 GENCODE basic APPRIS P1
Zdhhc5-203	ENSMUST00000138171.1	567	No protein	Processed transcript	-	-	TSL:2
Zdhhc5-202	ENSMUST00000125690.1	395	No protein	Processed transcript	-	-	TSL:5

The strategy is based on the design of *Zdhhc5-201* 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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