

Usp49 Cas9-KO Strategy

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Project Overview

Project Name

Usp49

Project type

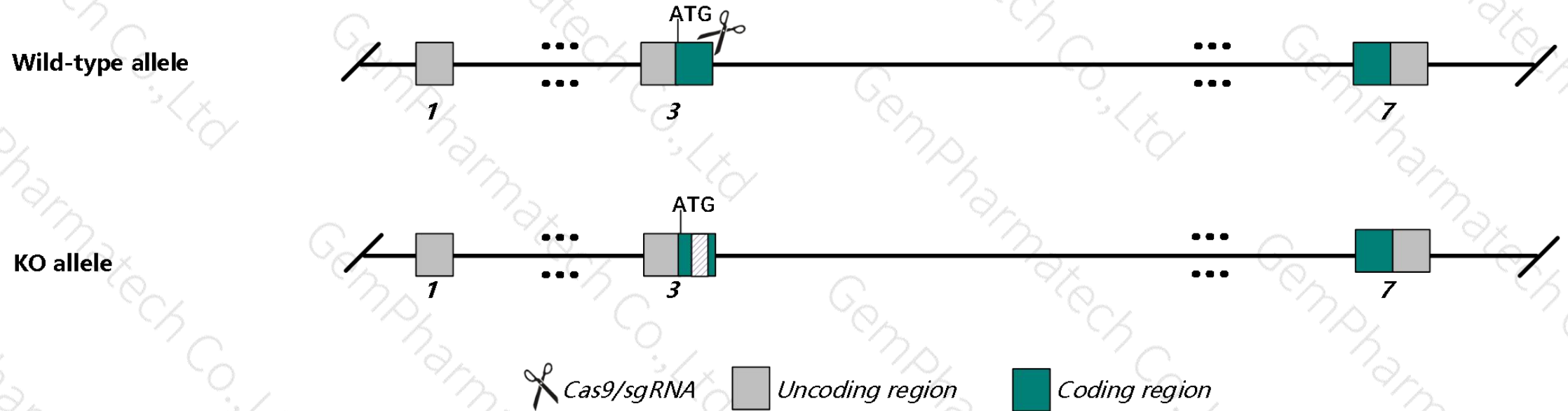
Cas9-KO

Strain background

C57BL/6N

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Usp49* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Usp49* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6N 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/6N mice.

- The *Usp49* 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)

Usp49 ubiquitin specific peptidase 49 [*Mus musculus* (house mouse)]



Gene ID: 224836, updated on 12-Aug-2019

Summary

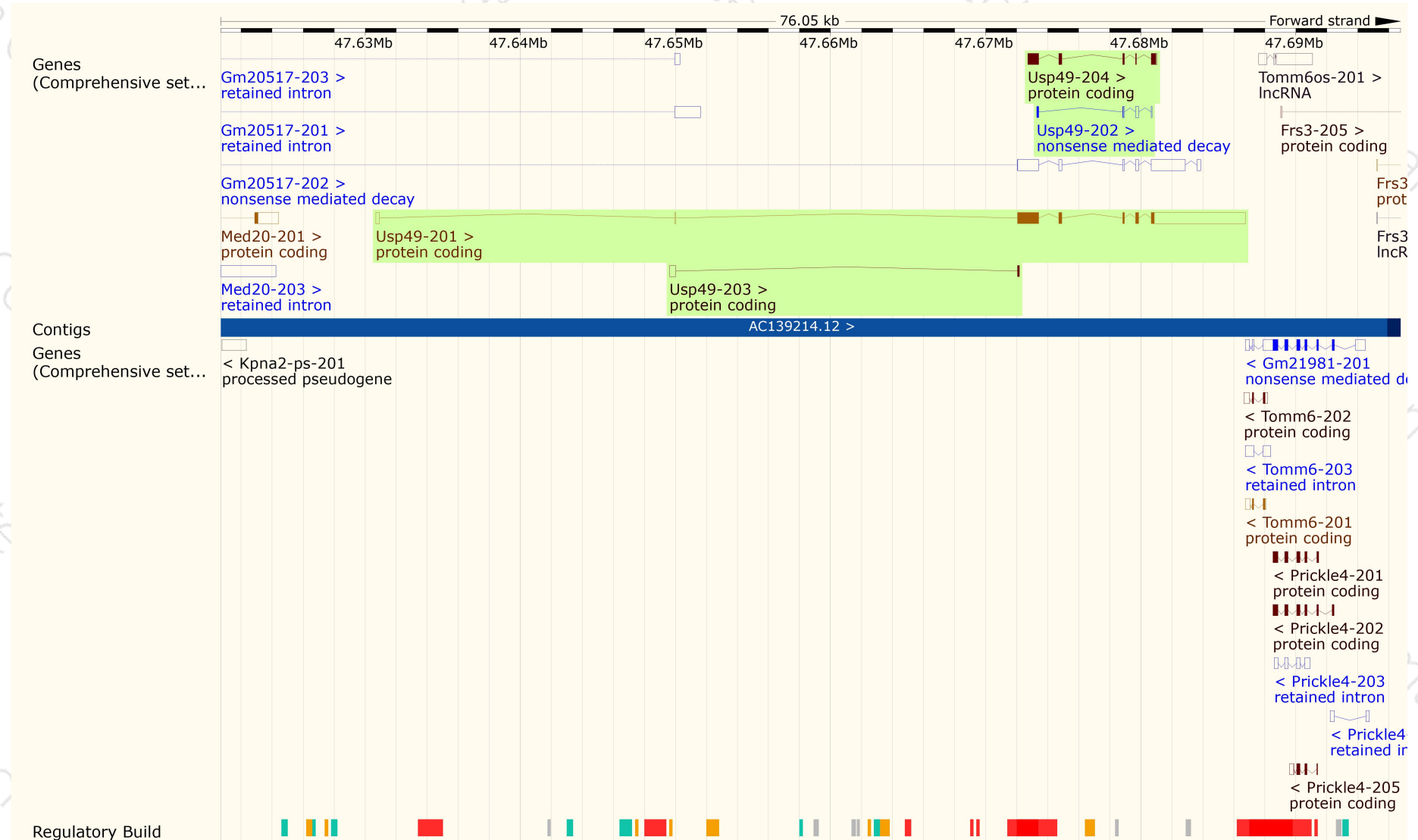
Official Symbol	Usp49 provided by MGI
Official Full Name	ubiquitin specific peptidase 49 provided by MGI
Primary source	MGI:MGI:2685391
See related	Ensembl:ENSMUSG00000090115
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Gm545; C330046L10Rik
Expression	Ubiquitous expression in testis adult (RPKM 16.6), CNS E14 (RPKM 9.6) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Usp49-201	ENSMUST00000024779.14	8252	685aa	 Protein coding	CCDS28852	Q6P9L4	TSL:1 GENCODE basic APPRIS P1
Usp49-204	ENSMUST00000152724.1	1443	453aa	 Protein coding	-	Q8BUQ6	CDS 5' incomplete TSL:1
Usp49-203	ENSMUST00000145314.1	544	37aa	 Protein coding	-	D3YZI5	CDS 3' incomplete TSL:2
Usp49-202	ENSMUST00000131550.1	480	52aa	 Nonsense mediated decay	-	F6VK47	CDS 5' incomplete TSL:5

Genomic location distribution



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

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