

Usp40 Cas9-KO Strategy

Designer: Daohua Xu

Reviewer: Huimin Su

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Project Overview

Project Name

Usp40

Project type

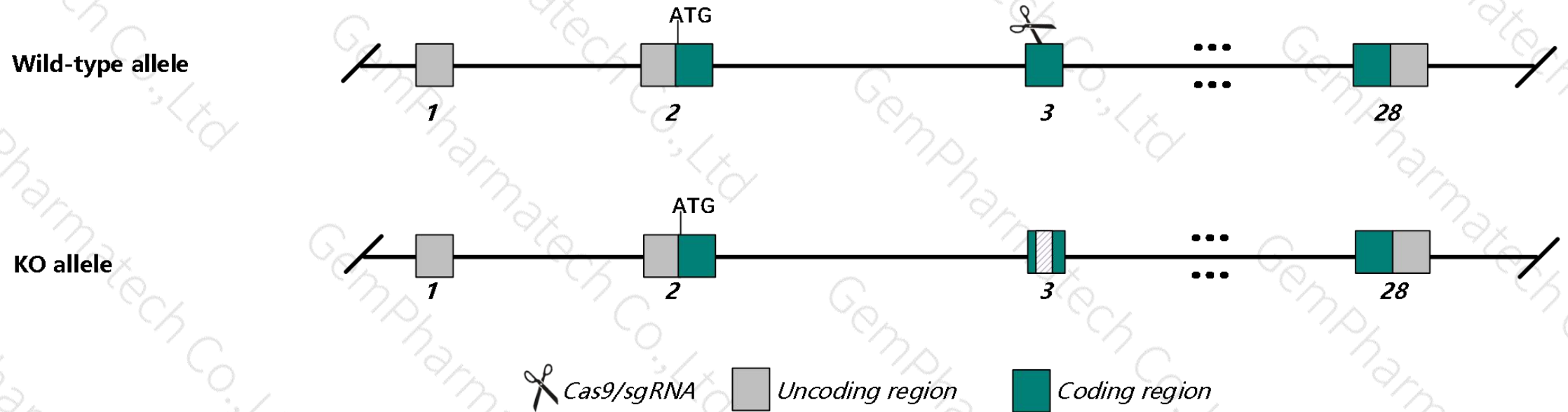
Cas9-KO

Strain background

C57BL/6N

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Usp40* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Usp40* 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 *Usp40* gene is located on the Chr1. 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)

Usp40 ubiquitin specific peptidase 40 [*Mus musculus* (house mouse)]

Gene ID: 227334, updated on 12-Aug-2019

Summary

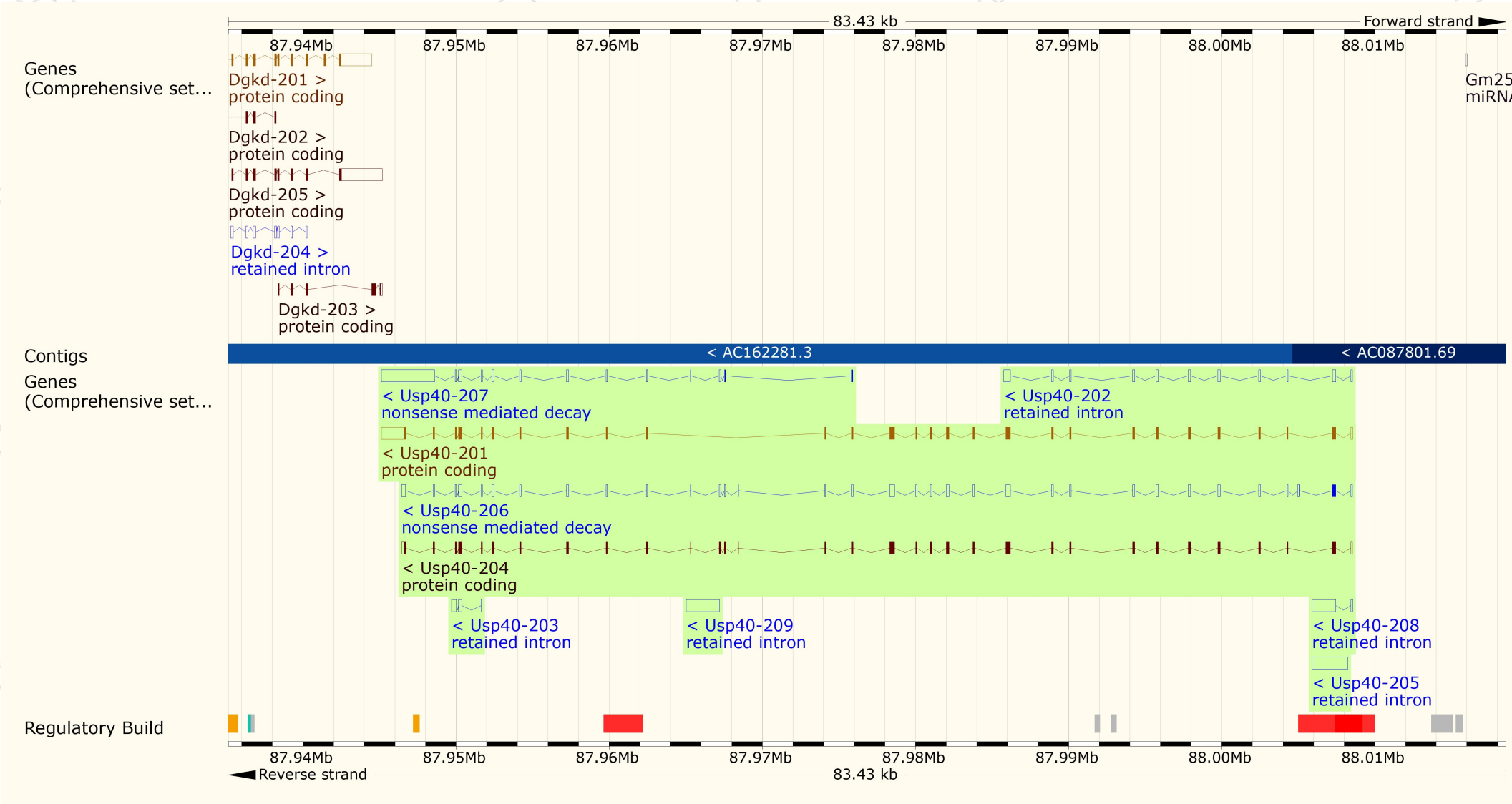
Official Symbol	Usp40 provided by MGI
Official Full Name	ubiquitin specific peptidase 40 provided by MGI
Primary source	MGI:MGI:2443184
See related	Ensembl:ENSMUSG00000005501
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	C730029K03; B230215L03Rik
Expression	Ubiquitous expression in limb E14.5 (RPKM 6.6), CNS E11.5 (RPKM 4.8) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Usp40-201	ENSMUST00000040783.10	5049	1146aa	Protein coding	CCDS15137	Q8BWR4	TSL:1 Gencode basic APPRIS P3
Usp40-204	ENSMUST00000187758.6	3977	1235aa	Protein coding	CCDS78645	Q8BWR4	TSL:1 Gencode basic APPRIS ALT2
Usp40-207	ENSMUST00000189409.6	4633	42aa	Nonsense mediated decay	-	A0A087WQL1	CDS 5' incomplete TSL:1
Usp40-206	ENSMUST00000188332.6	4109	71aa	Nonsense mediated decay	-	A0A087WRD2	TSL:1
Usp40-205	ENSMUST00000187871.1	2335	No protein	Retained intron	-	-	TSL:NA
Usp40-209	ENSMUST00000190446.1	2179	No protein	Retained intron	-	-	TSL:NA
Usp40-202	ENSMUST00000186315.1	1725	No protein	Retained intron	-	-	TSL:1
Usp40-208	ENSMUST00000189586.1	1661	No protein	Retained intron	-	-	TSL:1
Usp40-203	ENSMUST00000186670.1	571	No protein	Retained intron	-	-	TSL:3

Genomic location distribution



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

Tel: 025-5864 1534

