

Ube2q2 Cas9-KO Strategy

Designer:

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Design Date:

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Project Overview

Project Name

Ube2q2

Project type

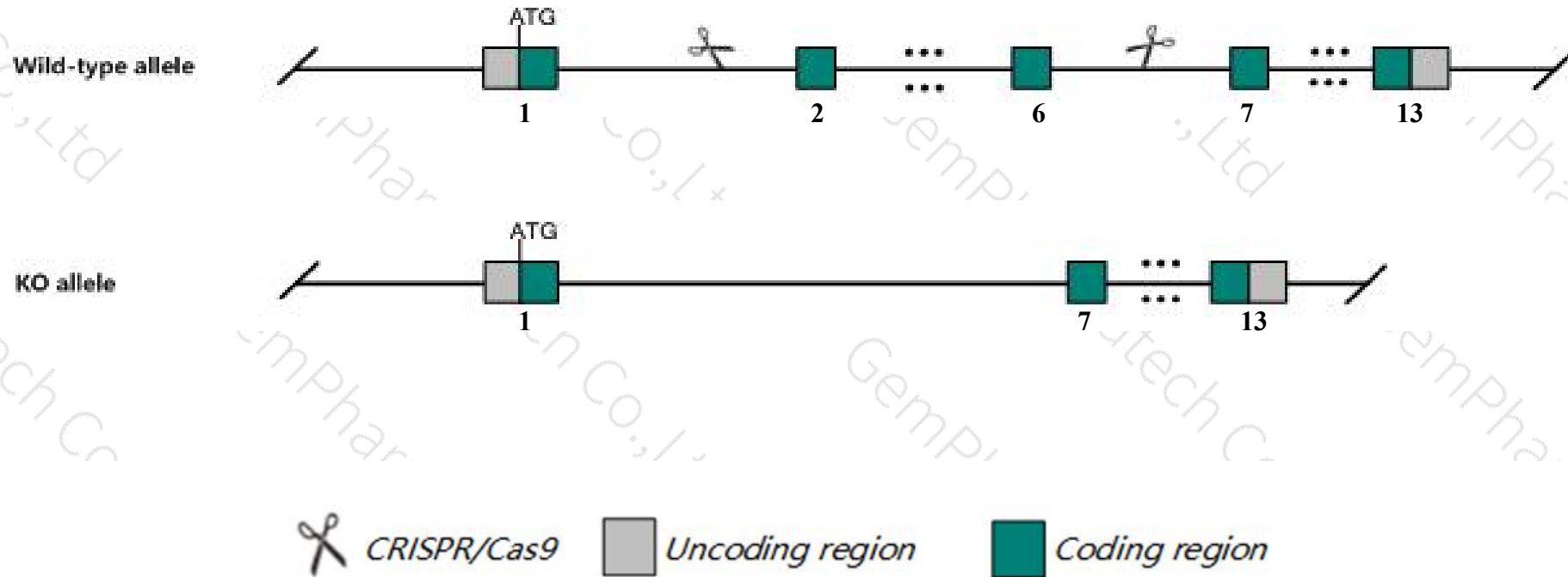
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ube2q2* gene. The schematic diagram is as follows:



- The *Ube2q2* gene has 4 transcripts. According to the structure of *Ube2q2* gene, exon2-exon6 of *Ube2q2-201* (ENSMUST00000059555.14) transcript is recommended as the knockout region. The region contains 490bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ube2q2* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Ube2q2* gene is located on the Chr9. 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)

Ube2q2 ubiquitin-conjugating enzyme E2Q family member 2 [Mus musculus (house mouse)]

Gene ID: 109161, updated on 31-Jan-2019

Summary



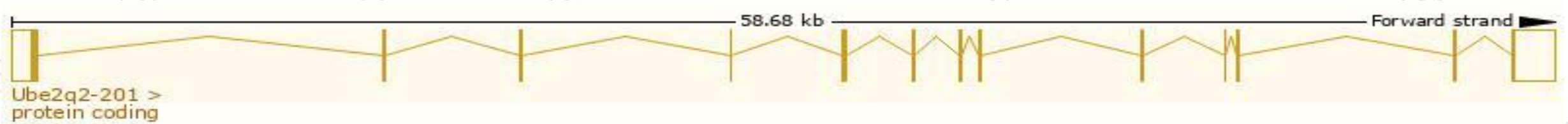
Official Symbol	Ube2q2 provided by MGI
Official Full Name	ubiquitin-conjugating enzyme E2Q family member 2 provided by MGI
Primary source	MGI:MGI:2388672
See related	Ensembl:ENSMUSG00000032307
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	3010021M21Rik
Expression	Ubiquitous expression in cerebellum adult (RPKM 7.3), testis adult (RPKM 6.8) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

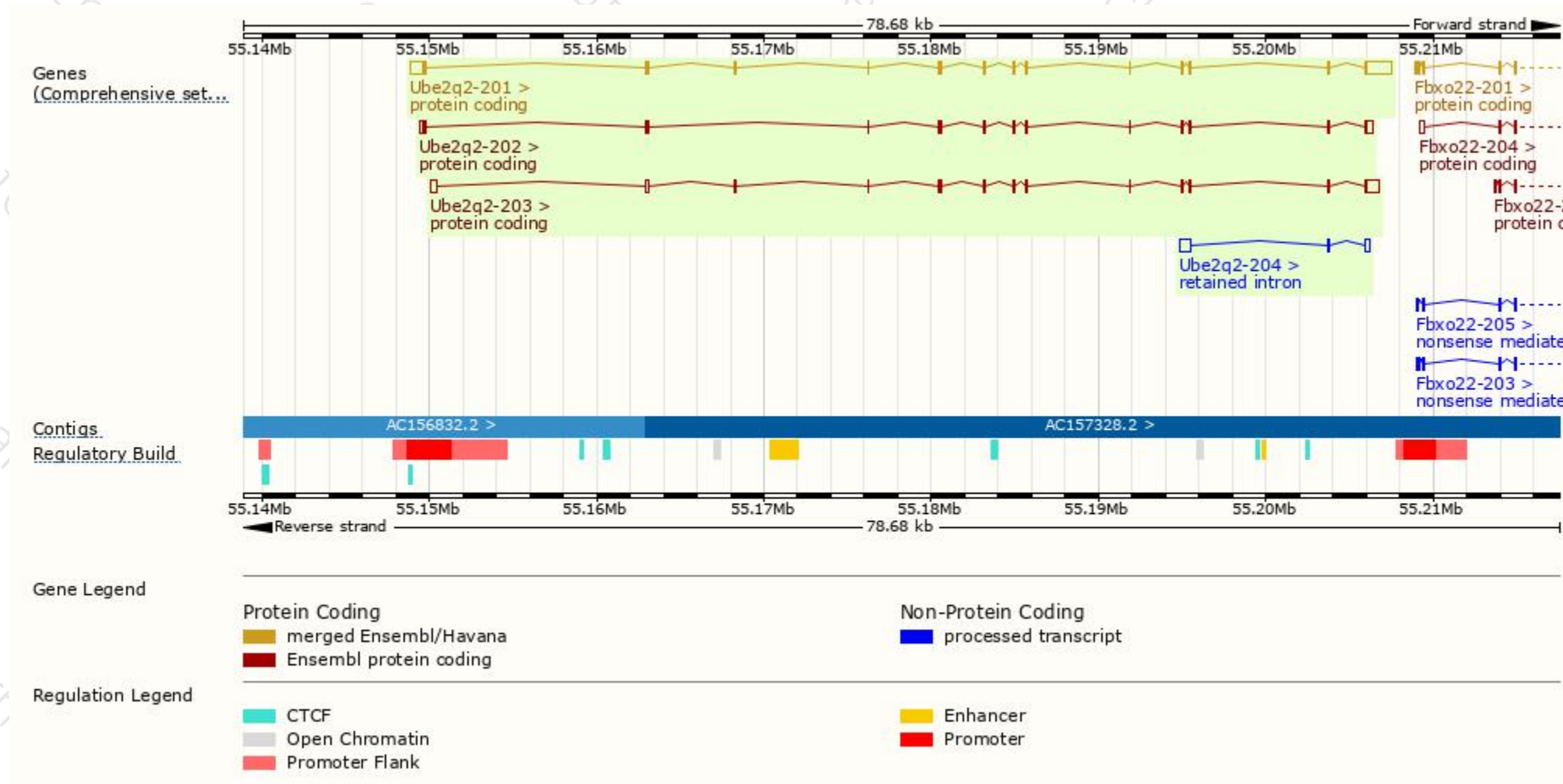
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ube2q2-201	ENSMUST00000059555.14	3456	378aa	Protein coding	CCDS23201	Q8K2Z8	TSL:1 GENCODE basic APPRIS P3
Ube2q2-203	ENSMUST00000122441.1	2081	255aa	Protein coding	CCDS85678	Q8K2Z8	TSL:1 GENCODE basic
Ube2q2-202	ENSMUST00000121677.7	1680	343aa	Protein coding	CCDS85677	D3Z647	TSL:5 GENCODE basic APPRIS ALT1
Ube2q2-204	ENSMUST00000148468.1	993	No protein	Retained intron	-	-	TSL:2

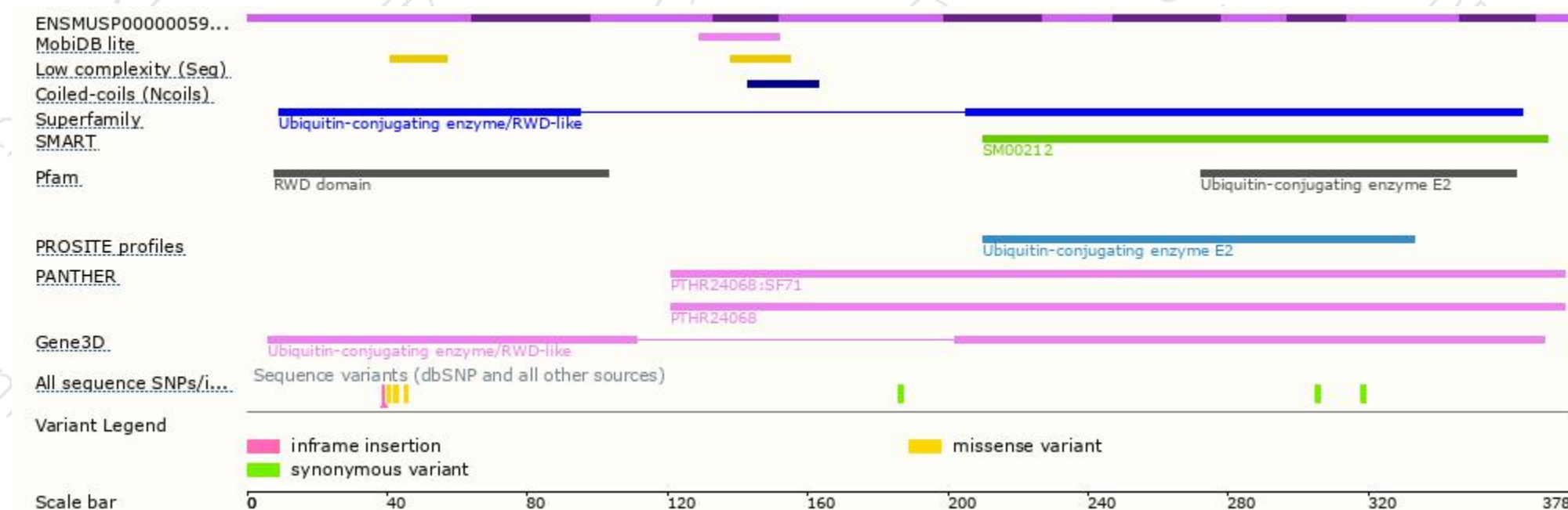
The strategy is based on the design of *Ube2q2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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