

Atp6v0e Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Atp6v0e

Project type

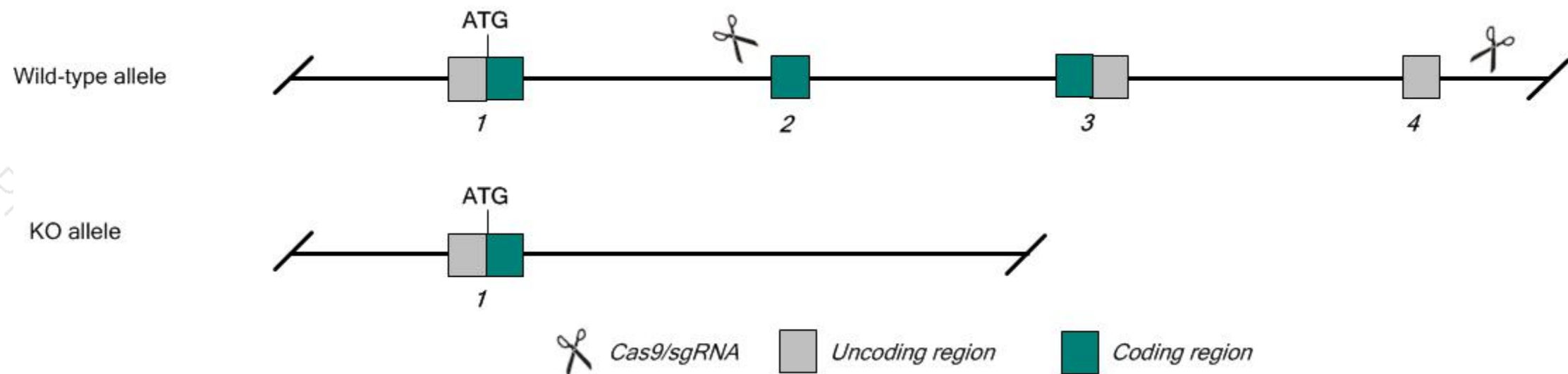
Cas9-KO

Strain background

C57BL/6J

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Atp6v0e* gene. The schematic diagram is as follows:



- The *Atp6v0e* gene has 5 transcripts. According to the structure of *Atp6v0e* gene, exon2-4 of *Atp6v0e*-201 (ENSMUST00000015719.15) transcript is recommended as the knockout region. The region contains most of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Atp6v0e* 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.

- The *Atp6v0e* 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 gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information (NCBI)

Atp6v0e ATPase, H⁺ transporting, lysosomal V0 subunit E [*Mus musculus* (house mouse)]

Gene ID: 11974, updated on 8-Jun-2019

Summary

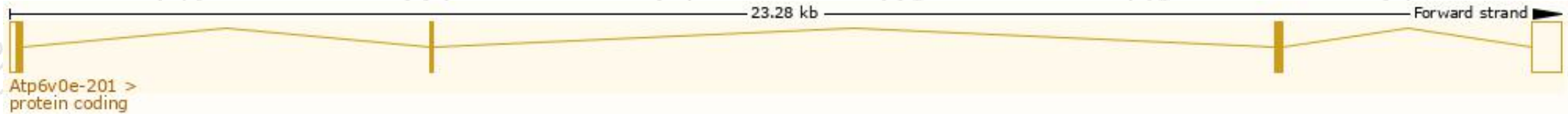
Official Symbol	Atp6v0e provided by MGI
Official Full Name	ATPase, H ⁺ transporting, lysosomal V0 subunit E provided by MGI
Primary source	MGI:MGI:1328318
See related	Ensembl:ENSMUSG000000015575
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	M9.2; Atp6k; Atp6v0e1
Expression	Ubiquitous expression in genital fat pad adult (RPKM 163.1), kidney adult (RPKM 139.8) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

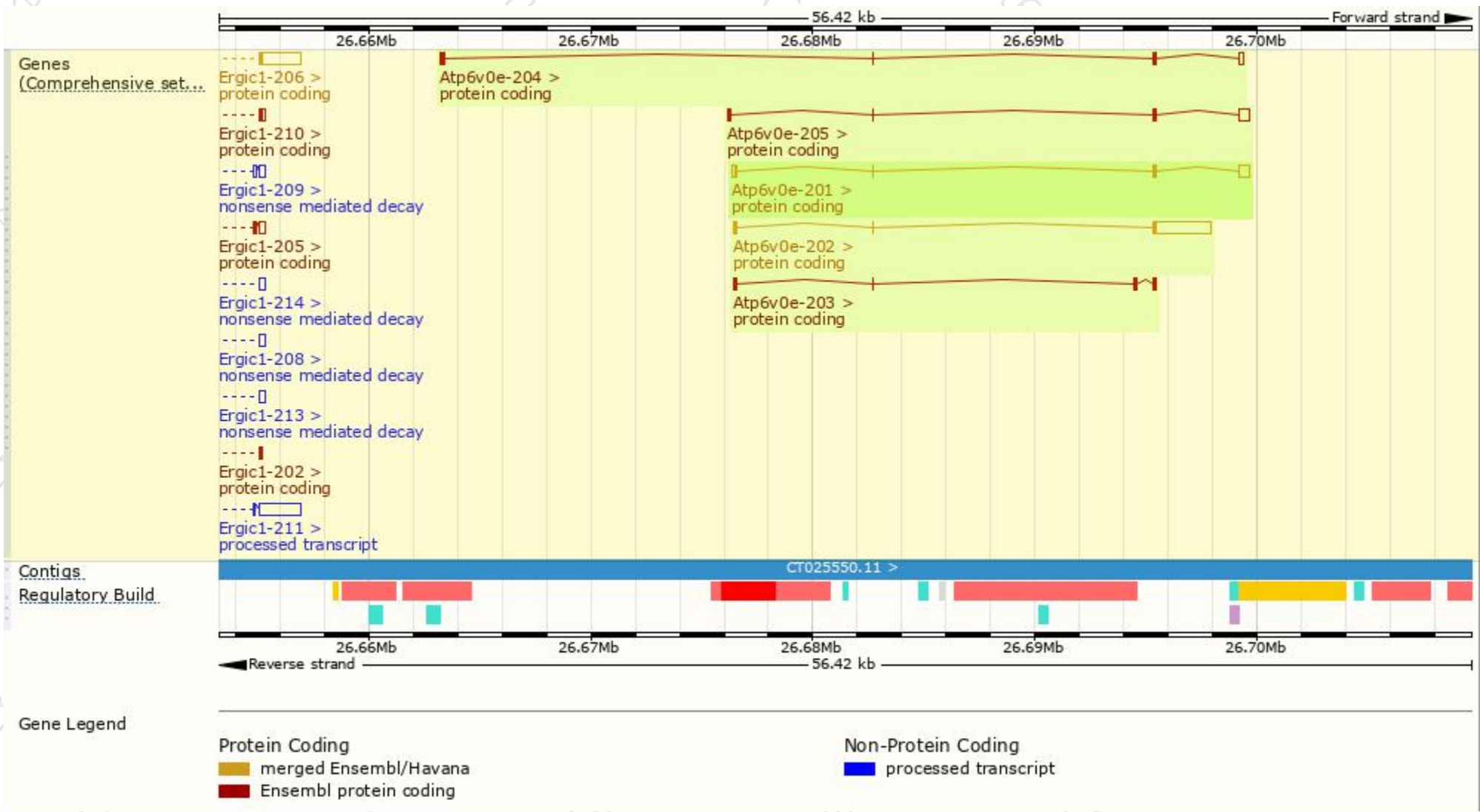
The gene has 5 transcripts, and all transcripts are shown below :

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Atp6v0e-202	ENSMUST00000167352.1	2812	81aa	Protein coding	CCDS28554	Q9CQD8	TSL:1 GENCODE basic APPRIS P1
Atp6v0e-201	ENSMUST0000015719.15	823	81aa	Protein coding	CCDS28554	Q9CQD8	TSL:1 GENCODE basic APPRIS P1
Atp6v0e-205	ENSMUST00000236867.1	772	86aa	Protein coding	-	-	GENCODE basic
Atp6v0e-204	ENSMUST00000236346.1	494	80aa	Protein coding	-	-	GENCODE basic
Atp6v0e-203	ENSMUST00000236299.1	442	104aa	Protein coding	-	-	GENCODE basic

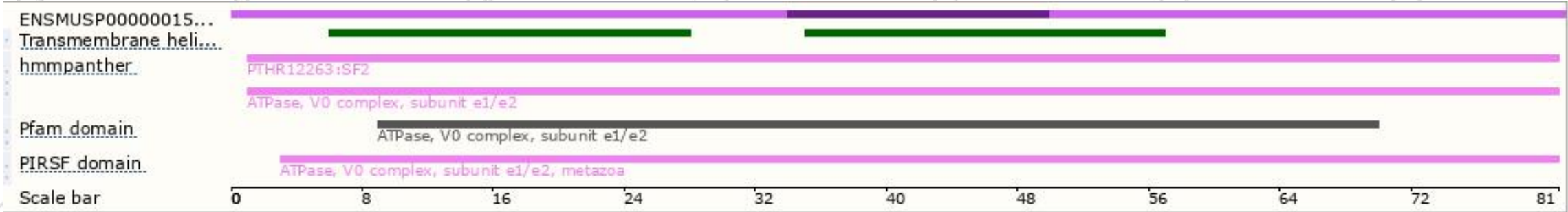
The strategy is based on the design of *Atp6v0e-201* transcript,The transcription is shown below



Genomic location (Ensembl)



Protein domain (Ensembl)



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

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