

Ubash3b Cas9-CKO Strategy

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Design Date:2020-2-11

Project Overview

Project Name

Ubash3b

Project type

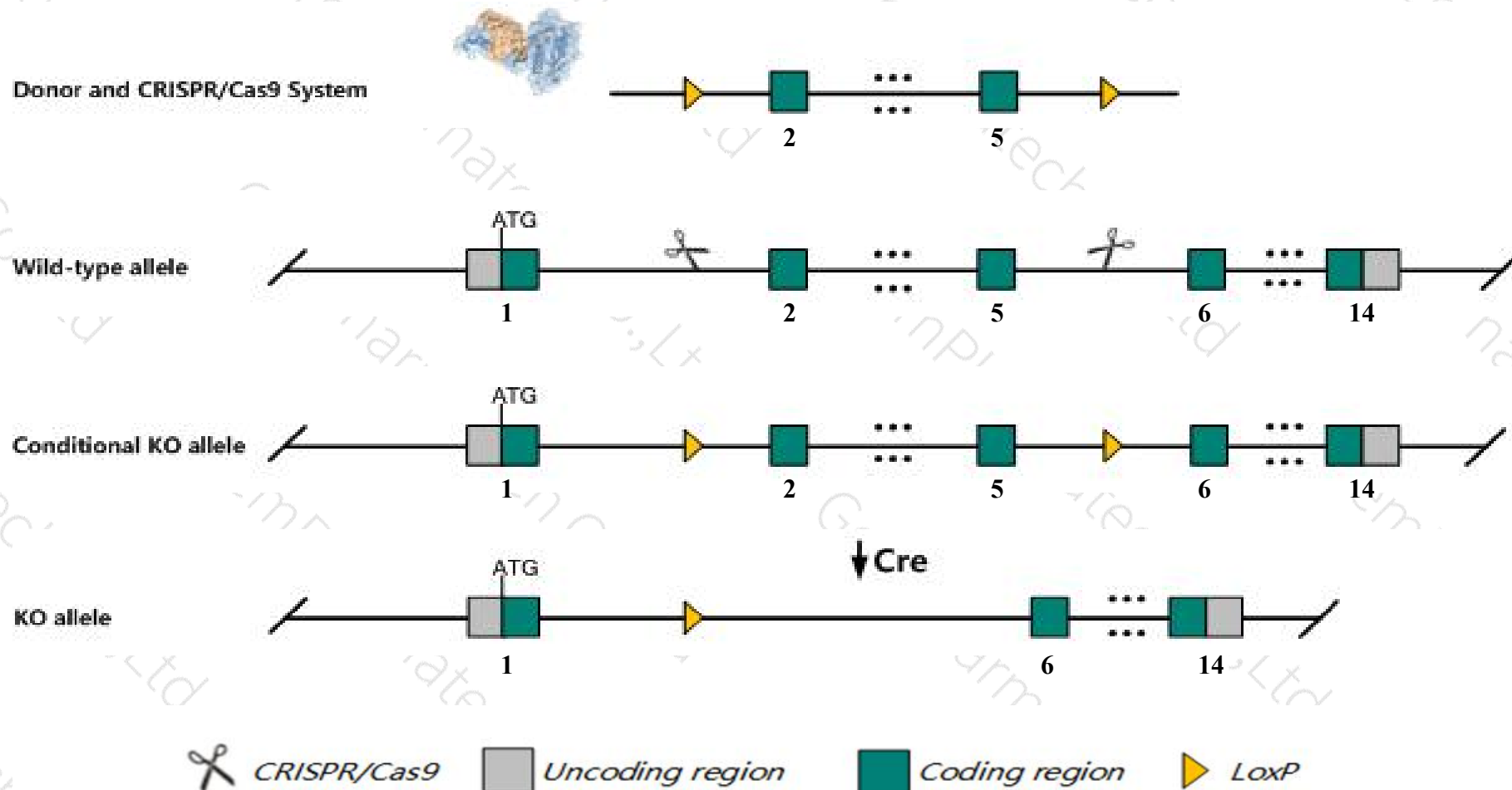
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ubash3b* gene. The schematic diagram is as follows:



- The *Ubash3b* gene has 6 transcripts. According to the structure of *Ubash3b* gene, exon2-exon5 of *Ubash3b-201* (ENSMUST00000044155.14) transcript is recommended as the knockout region. The region contains 610bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ubash3b* gene. The brief process is as follows: CRISPR/Cas9 system and Donor were microinjected into the fertilized eggs of C57BL/6JGpt 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/6JGpt mice.
- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- According to the existing MGI data, Mice homozygous for a knock-out allele are viable, fertile, developmentally normal, and do not display any obvious phenotypic abnormalities.
- The *Ubash3b* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Ubash3b ubiquitin associated and SH3 domain containing, B [*Mus musculus* (house mouse)]

Gene ID: 72828, updated on 24-Oct-2019

Summary

Official Symbol Ubash3b provided by [MGI](#)

Official Full Name ubiquitin associated and SH3 domain containing, B provided by [MGI](#)

Primary source [MGI:MGI:1920078](#)

See related [Ensembl:ENSMUSG00000032020](#)

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 p70; STS-1; TULA-2; BB125008; 2810457I06Rik

Expression Broad expression in cerebellum adult (RPKM 9.2), CNS E18 (RPKM 4.0) and 19 other tissues [See more](#)

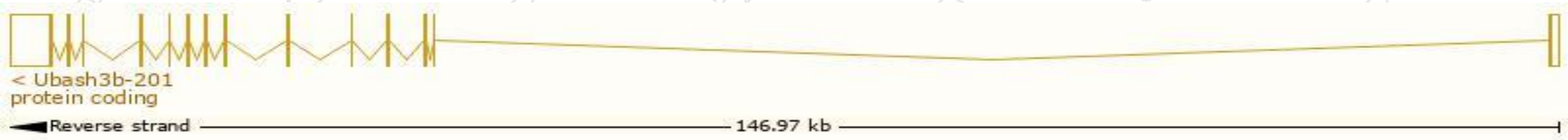
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

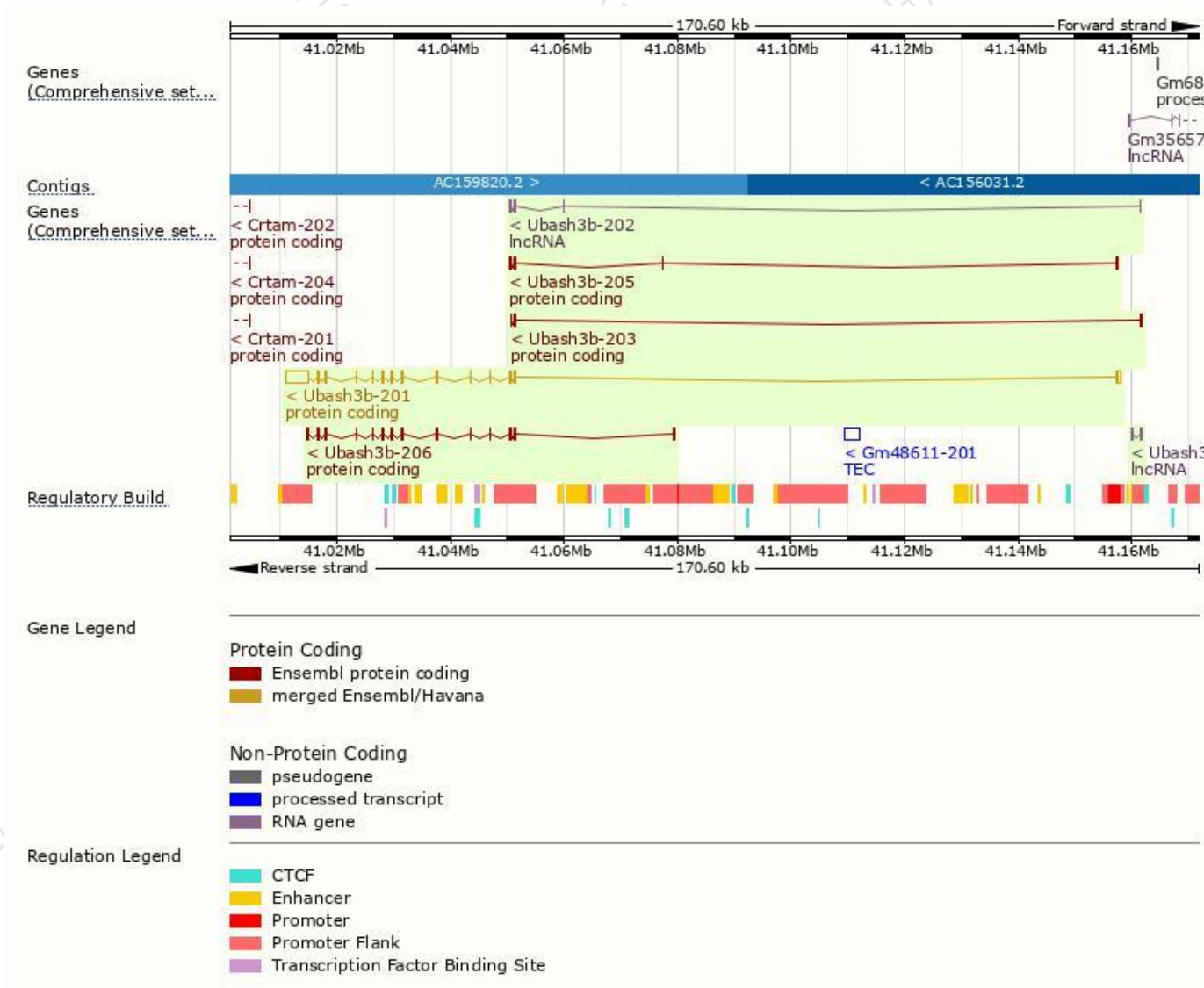
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ubash3b-201	ENSMUST00000044155.14	6354	638aa	Protein coding	CCDS23085	Q8BGG7	TSL:1 GENCODE basic APPRIS P1
Ubash3b-206	ENSMUST00000151485.7	2231	516aa	Protein coding	-	Q8BGG7	TSL:1 GENCODE basic
Ubash3b-205	ENSMUST00000136530.7	424	116aa	Protein coding	-	D3YVT5	CDS 3' incomplete TSL:3
Ubash3b-203	ENSMUST00000129906.1	354	93aa	Protein coding	-	H3BJB9	CDS 3' incomplete TSL:3
Ubash3b-204	ENSMUST00000132996.1	518	No protein	lncRNA	-	-	TSL:2
Ubash3b-202	ENSMUST00000124819.1	369	No protein	lncRNA	-	-	TSL:5

The strategy is based on the design of *Ubash3b-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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