

Elp5 Cas9-CKO Strategy

Designer:

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Project Overview

Project Name

Elp5

Project type

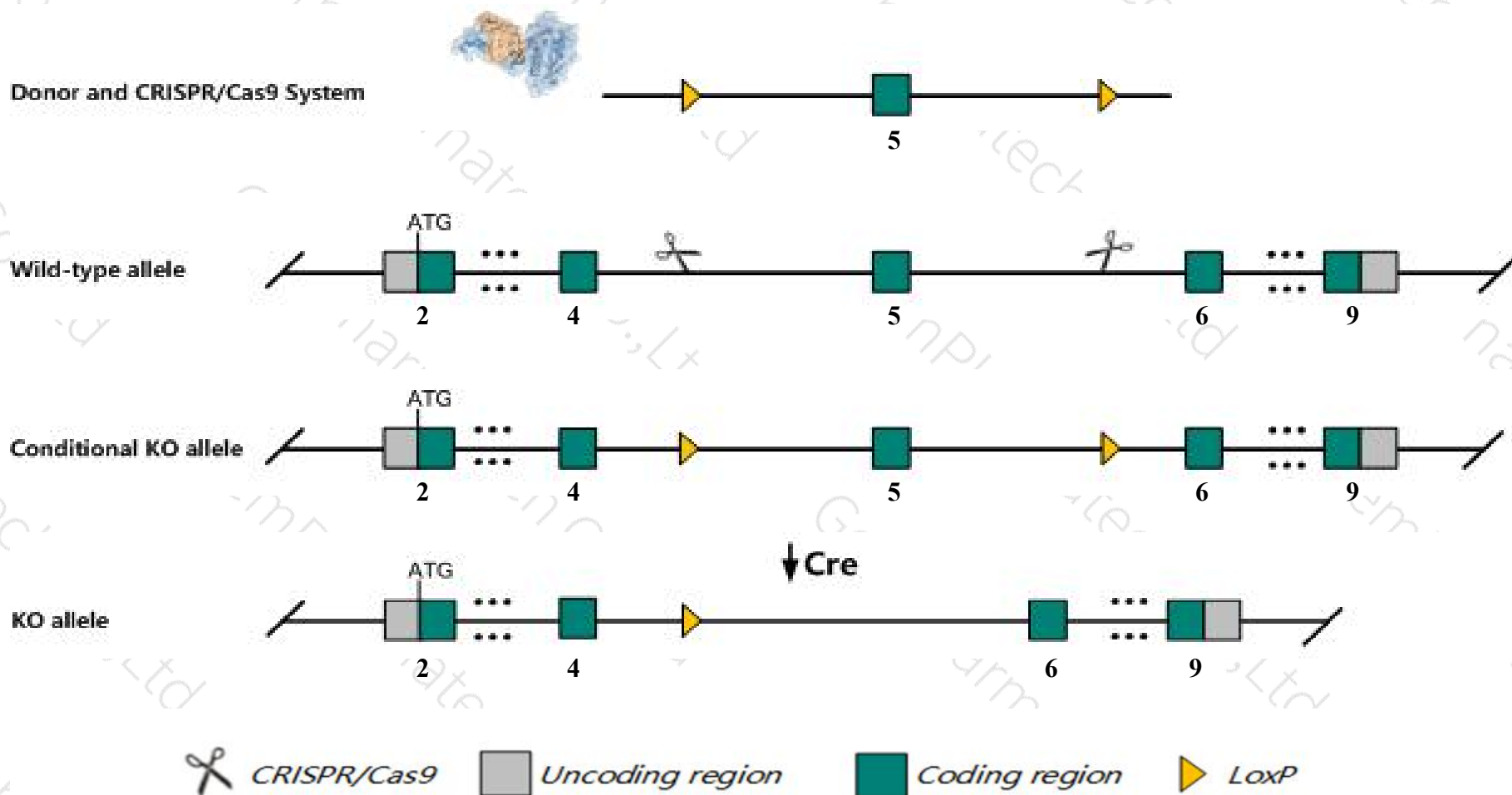
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Elp5* gene. The schematic diagram is as follows:



Technical routes

- The *Elp5* gene has 10 transcripts. According to the structure of *Elp5* gene, exon5 of *Elp5-201* (ENSMUST00000108594.7) transcript is recommended as the knockout region. The region contains 221bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Elp5* 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.

Notice

- Transcript *Elp5-207* may not be affected.
- The *Elp5* gene is located on the Chr11. 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)

Elp5 elongator acetyltransferase complex subunit 5 [Mus musculus (house mouse)]

Gene ID: 54351, updated on 31-Jan-2019

Summary



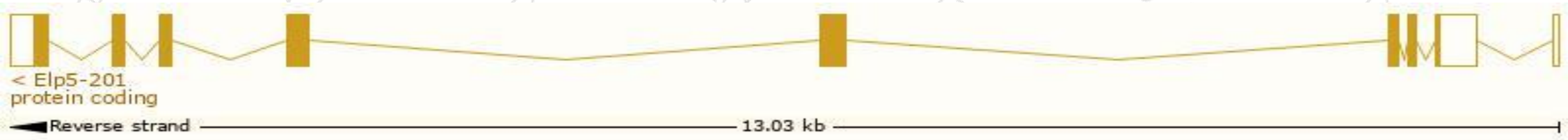
Official Symbol	Elp5 provided by MGI
Official Full Name	elongator acetyltransferase complex subunit 5 provided by MGI
Primary source	MGI:MGI:1859017
See related	Ensembl:ENSMUSG00000018565
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Derp6, Rai12
Expression	Ubiquitous expression in testis adult (RPKM 72.9), CNS E18 (RPKM 36.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

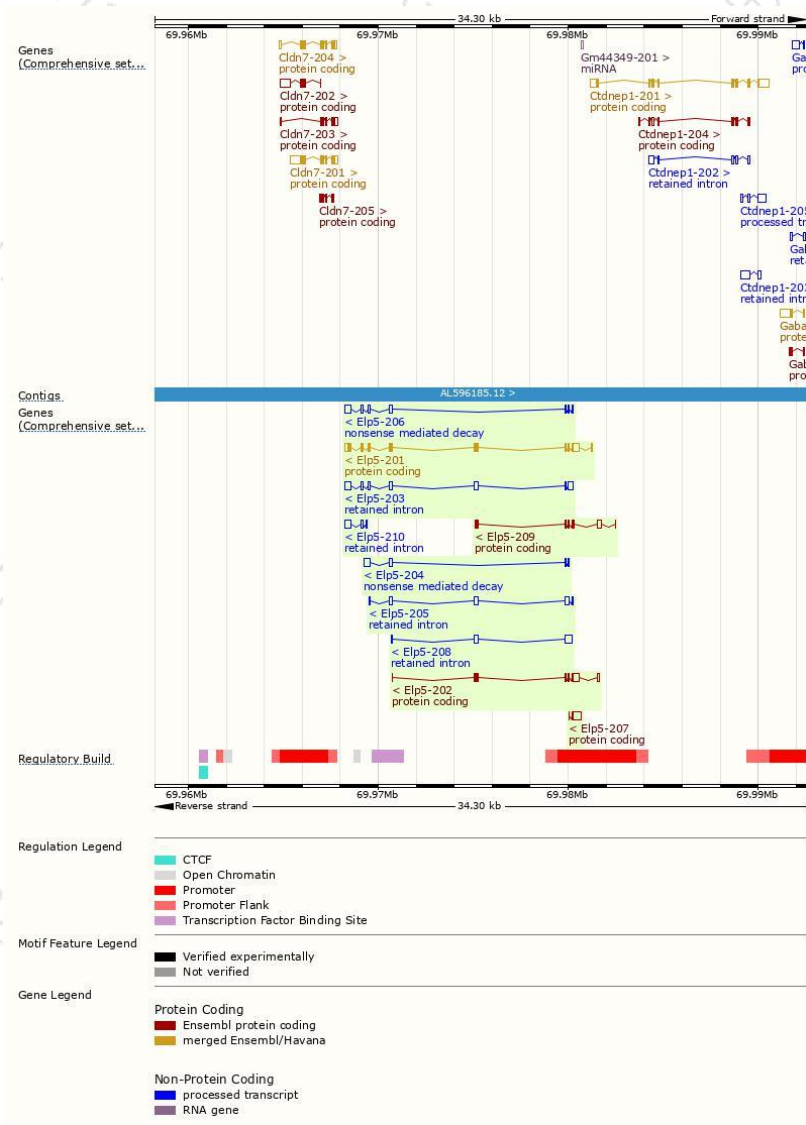
The gene has 10 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Elp5-201	ENSMUST00000108594.7	1454	300aa	Protein coding	CCDS24926	Q99L85	TSL:1 GENCODE basic APPRIS P1
Elp5-202	ENSMUST00000108595.8	803	140aa	Protein coding	-	F8WIE7	CDS 3' incomplete TSL:5
Elp5-209	ENSMUST00000147437.2	627	115aa	Protein coding	-	B1AR48	CDS 3' incomplete TSL:3
Elp5-207	ENSMUST00000143175.1	508	23aa	Protein coding	-	J3QMW4	CDS 3' incomplete TSL:2
Elp5-206	ENSMUST00000142788.7	899	63aa	Nonsense mediated decay	-	J3QJV1	TSL:3
Elp5-204	ENSMUST00000127437.7	674	49aa	Nonsense mediated decay	-	J3QN35	CDS 5' incomplete TSL:3
Elp5-203	ENSMUST00000123701.8	1259	No protein	Retained intron	-	-	TSL:1
Elp5-205	ENSMUST00000138562.7	755	No protein	Retained intron	-	-	TSL:5
Elp5-208	ENSMUST00000143788.1	634	No protein	Retained intron	-	-	TSL:1
Elp5-210	ENSMUST00000151766.1	479	No protein	Retained intron	-	-	TSL:3

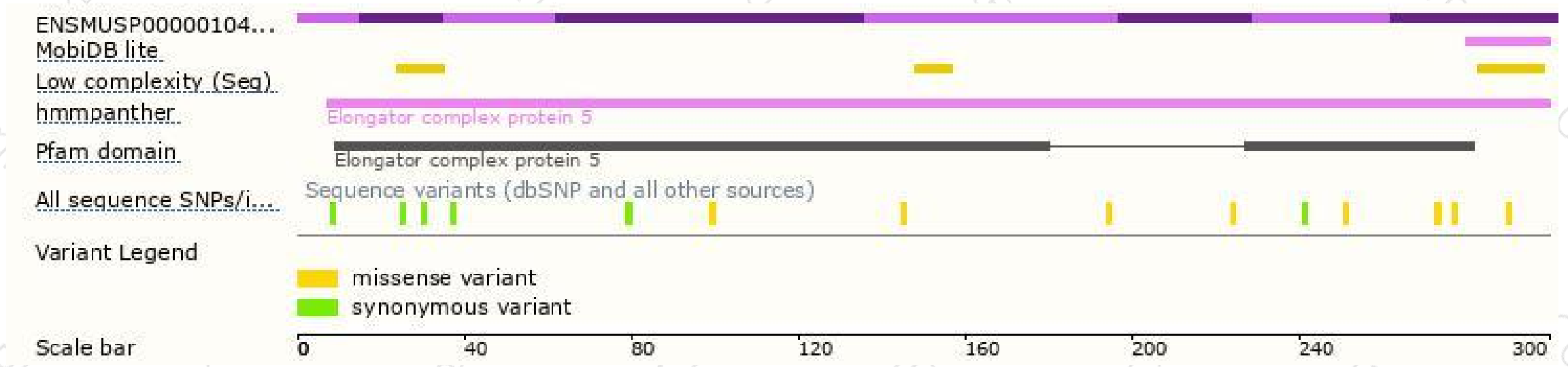
The strategy is based on the design of *Elp5-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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