

Deptor Cas9-CKO Strategy

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Project Overview

Project Name

Deptor

Project type

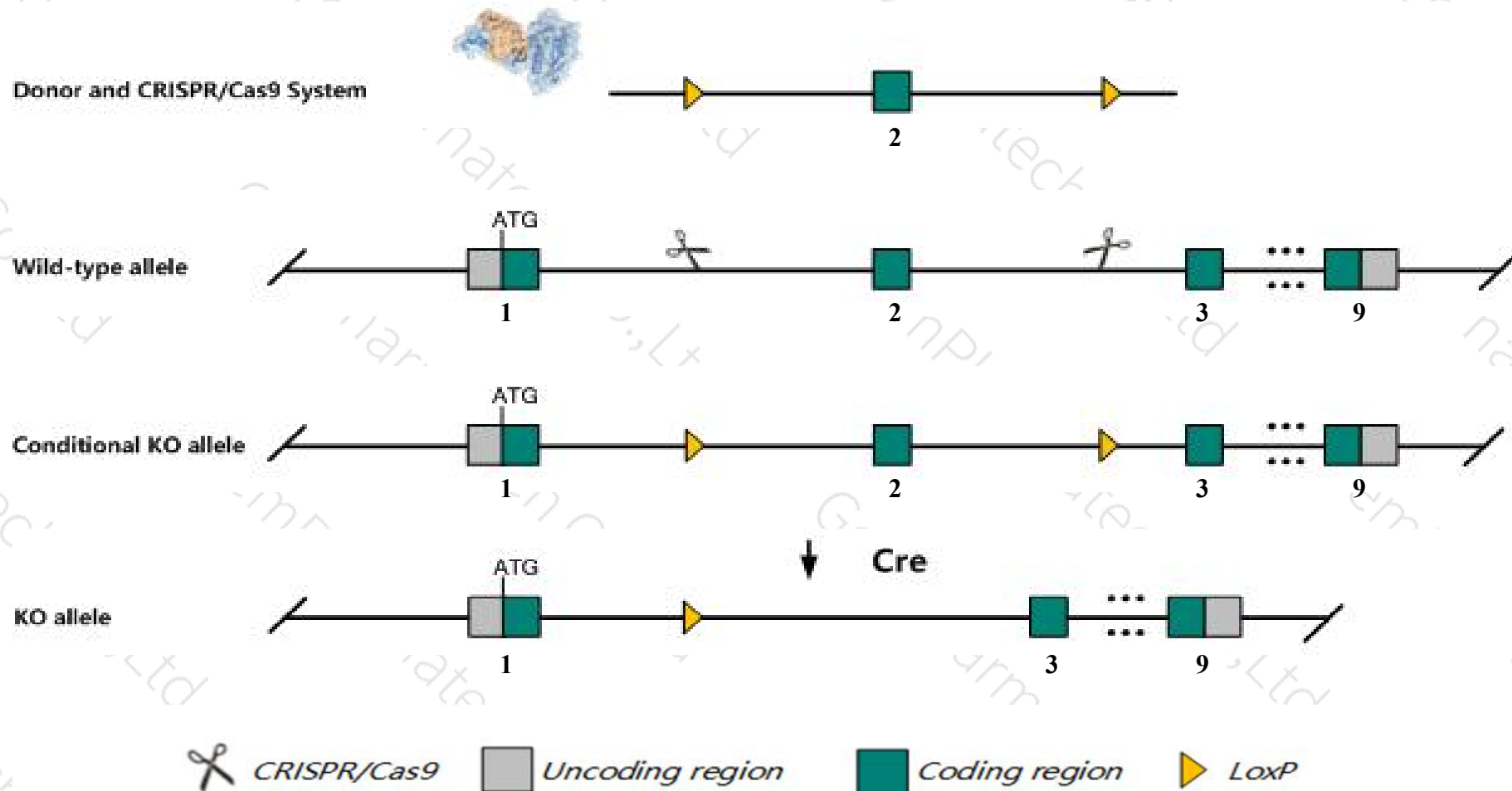
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



- The *Deptor* gene has 4 transcripts. According to the structure of *Deptor* gene, exon2 of *Deptor-202* (ENSMUST00000096433.9) transcript is recommended as the knockout region. The region contains 179bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Deptor* 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

- The *Deptor* gene is located on the Chr15. 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)

Deptor DEP domain containing MTOR-interacting protein [*Mus musculus* (house mouse)]

Gene ID: 97998, updated on 8-Dec-2019

Summary

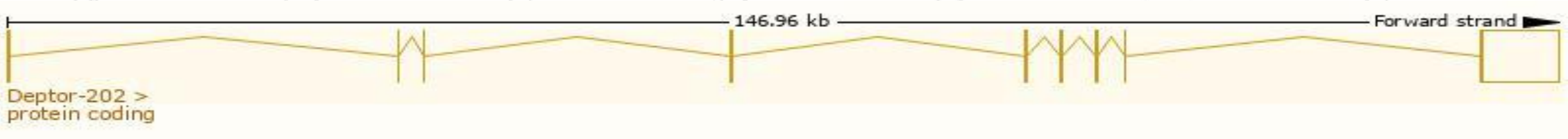
Official Symbol	Deptor provided by MGI
Official Full Name	DEP domain containing MTOR-interacting protein provided by MGI
Primary source	MGI:MGI:2146322
See related	Ensembl:ENSMUSG00000022419
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Depdc6
Expression	Broad expression in bladder adult (RPKM 11.6), subcutaneous fat pad adult (RPKM 8.1) and 23 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

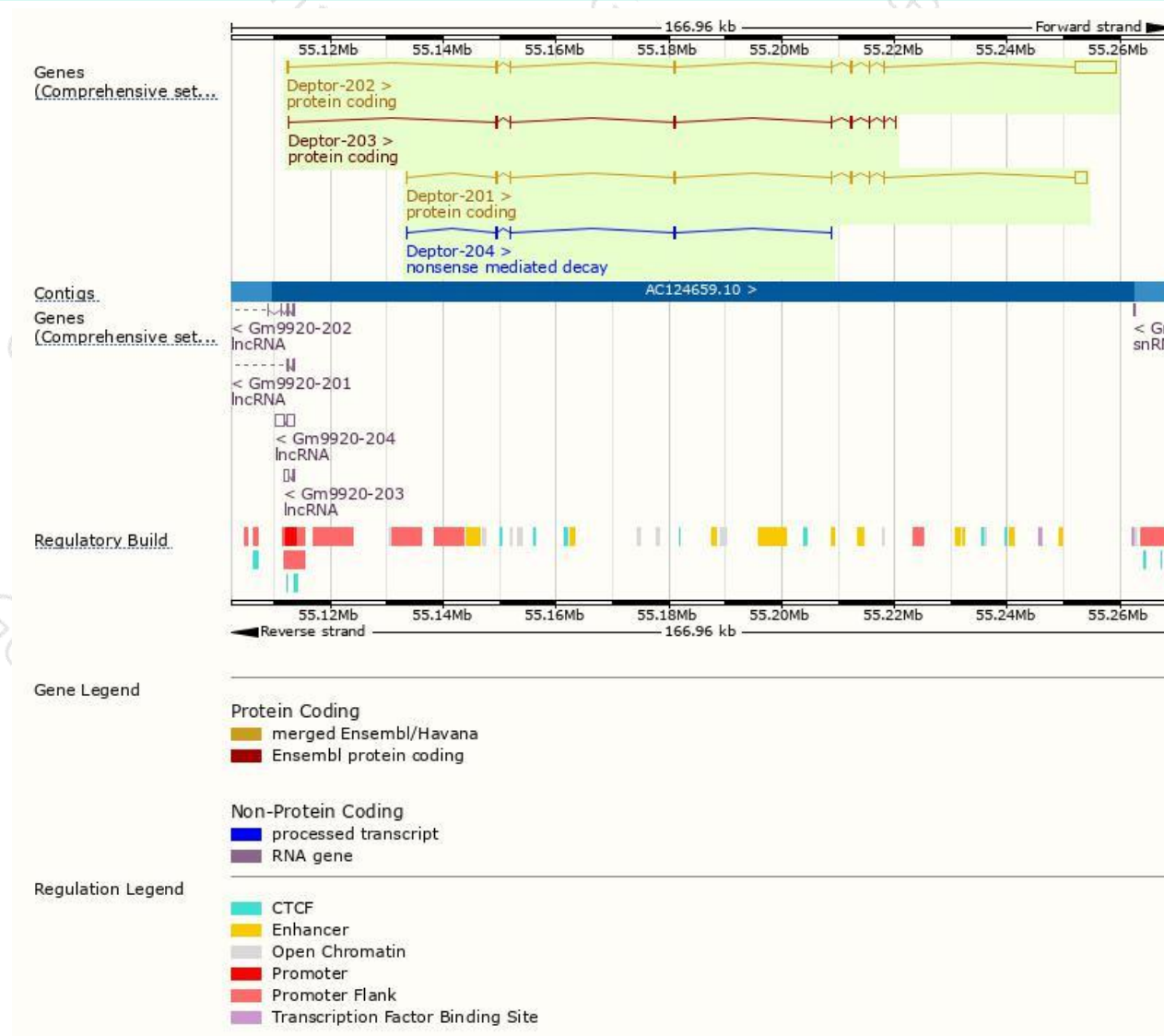
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Deptor-202	ENSMUST00000096433.9	8547	409aa	Protein coding	CCDS27474	B2ZRS3 Q570Y9	TSL:1 GENCODE basic APPRIS P1
Deptor-201	ENSMUST00000023056.7	3300	397aa	Protein coding	CCDS27475	B2ZRS7 Q570Y9	TSL:1 GENCODE basic
Deptor-203	ENSMUST00000100660.10	1377	401aa	Protein coding	-	B2ZRS5	TSL:1 GENCODE basic
Deptor-204	ENSMUST00000226687.1	693	100aa	Nonsense mediated decay	-	A0A2I3BRE1	

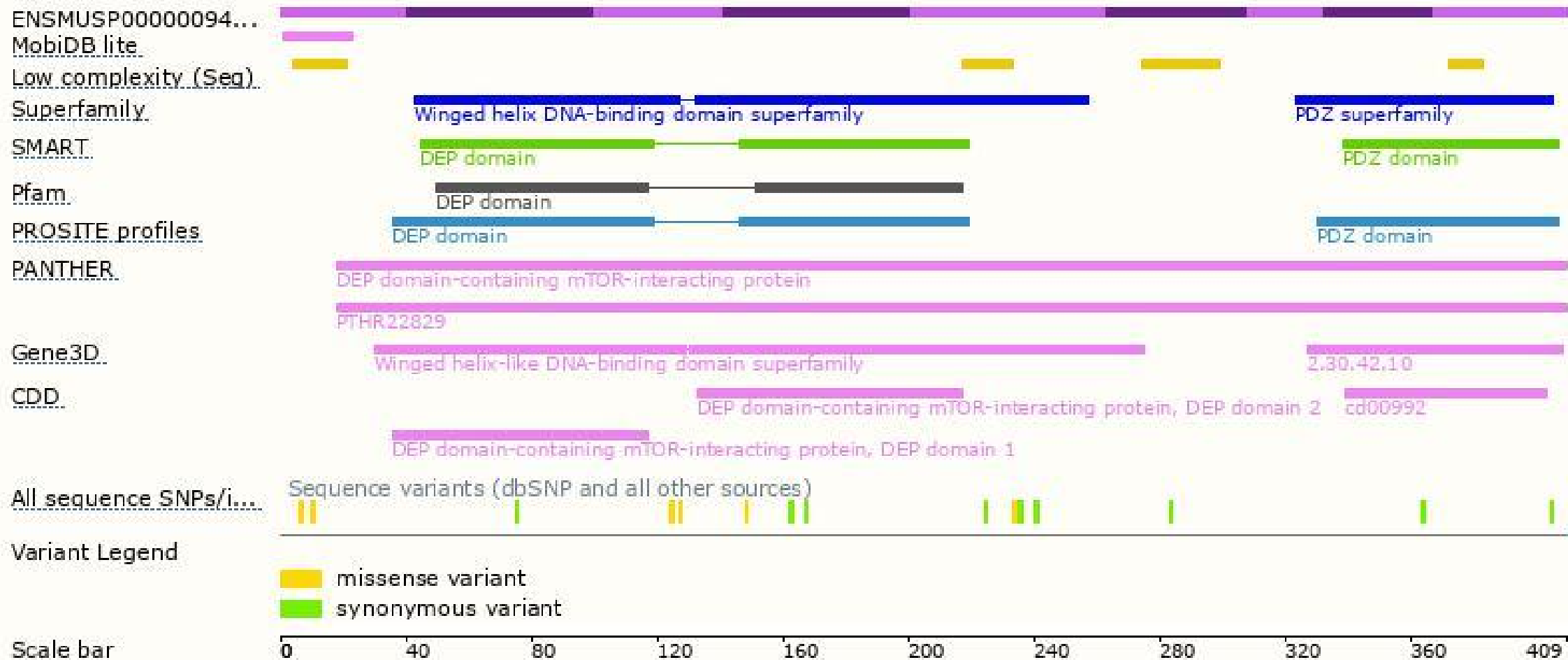
The strategy is based on the design of *Deptor-202* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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