

Osbp110 Cas9-KO Strategy

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Project Overview

Project Name

Osbpl10

Project type

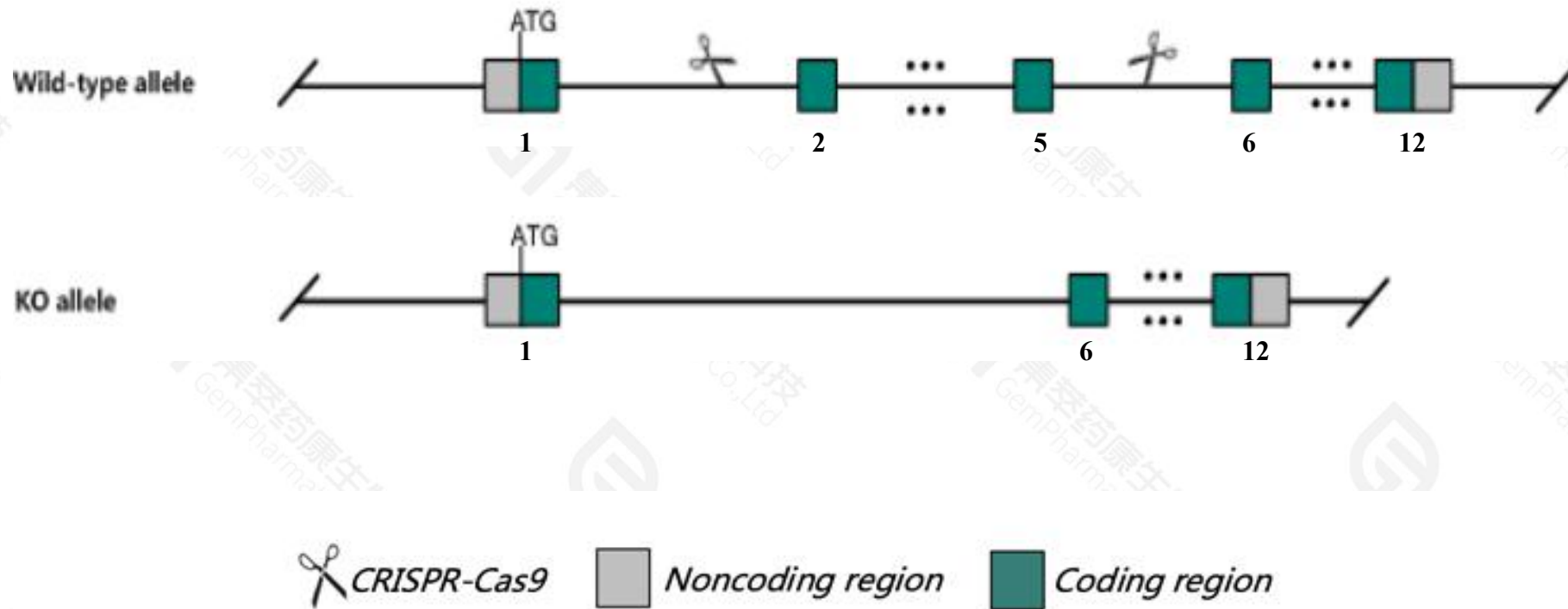
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR-Cas9 technology to edit the *Osbpl10* gene. The schematic diagram is as follows:



- The *Osbp110* gene has 8 transcripts. According to the structure of *Osbp110* gene, exon2-exon5 of *Osbp110*-207(ENSMUST00000183104.8) transcript is recommended as the knockout region. The region contains 659bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR-Cas9 technology to modify *Osbp110* gene. The brief process is as follows: CRISPR-Cas9 system 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 *Osbp110* 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.
- The effect on transcript *Osbp110*-201&203&206&208 is unknown.
- 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.

Osbpl10 oxysterol binding protein-like 10 [Mus musculus (house mouse)]

Gene ID: 74486, updated on 24-Apr-2022

Summary



Official Symbol Osbpl10 provided by [MGI](#)

Official Full Name oxysterol binding protein-like 10 provided by [MGI](#)

Primary source [MGI:MGI:1921736](#)

See related [Ensembl:ENSMUSG00000040875](#)

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 4933433D06Rik, C820004B04Rik, OPR-10, ORP-10

Expression Broad expression in testis adult (RPKM 17.5), small intestine adult (RPKM 2.8) and 15 other tissues [See more](#)

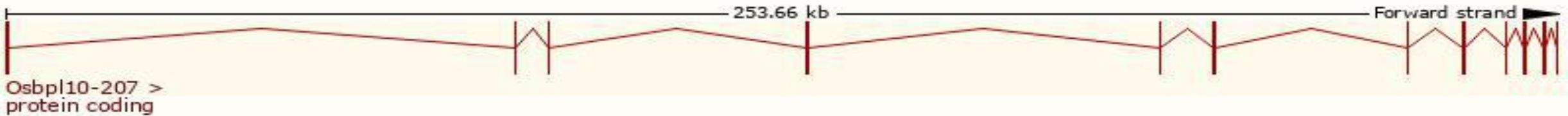
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

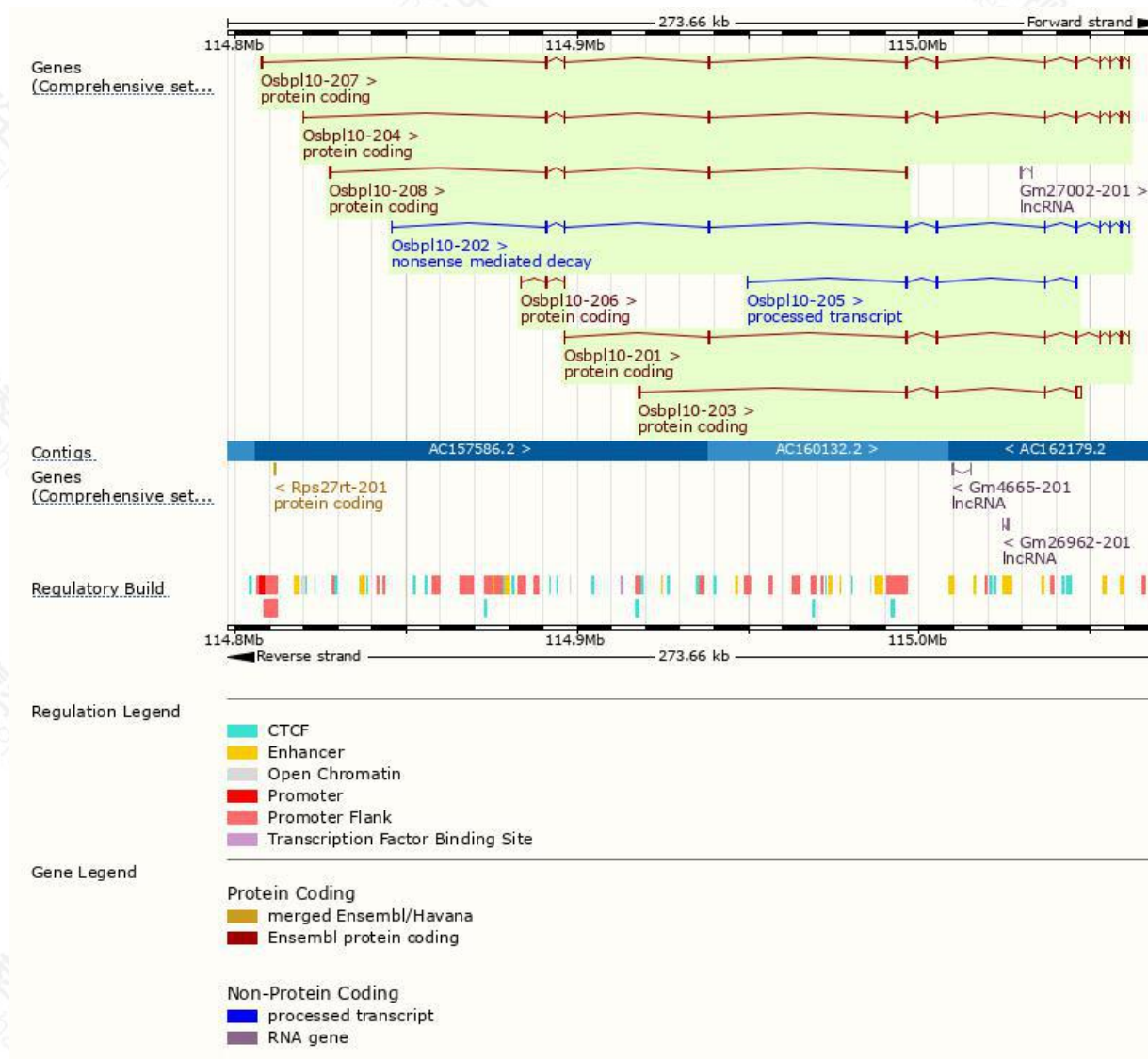
The gene has 8 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Osbp10-201	ENSMUST00000046627.6	1872	591aa	Protein coding	CCDS40796		TSL:1 , GENCODE basic ,
Osbp10-203	ENSMUST00000182363.8	2766	377aa	Protein coding	-		TSL:1 , GENCODE basic ,
Osbp10-207	ENSMUST00000183104.8	2477	766aa	Protein coding	-		TSL:5 , GENCODE basic , APPRIS P1 ,
Osbp10-204	ENSMUST00000182384.8	2158	627aa	Protein coding	-		TSL:5 , GENCODE basic ,
Osbp10-208	ENSMUST00000183141.8	1089	172aa	Protein coding	-		CDS 3' incomplete , TSL:3 ,
Osbp10-206	ENSMUST00000182920.2	448	37aa	Protein coding	-		CDS 3' incomplete , TSL:3 ,
Osbp10-202	ENSMUST00000182199.8	2196	67aa	Nonsense mediated decay	-		TSL:1 ,
Osbp10-205	ENSMUST00000182413.2	831	No protein	Processed transcript	-		TSL:3 ,

The strategy is based on the design of *Osbp10-207* 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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