

Oscp1 Cas9-CKO Strategy

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Reviewer:

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Design Date:

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Project Overview

Project Name

Oscp1

Project type

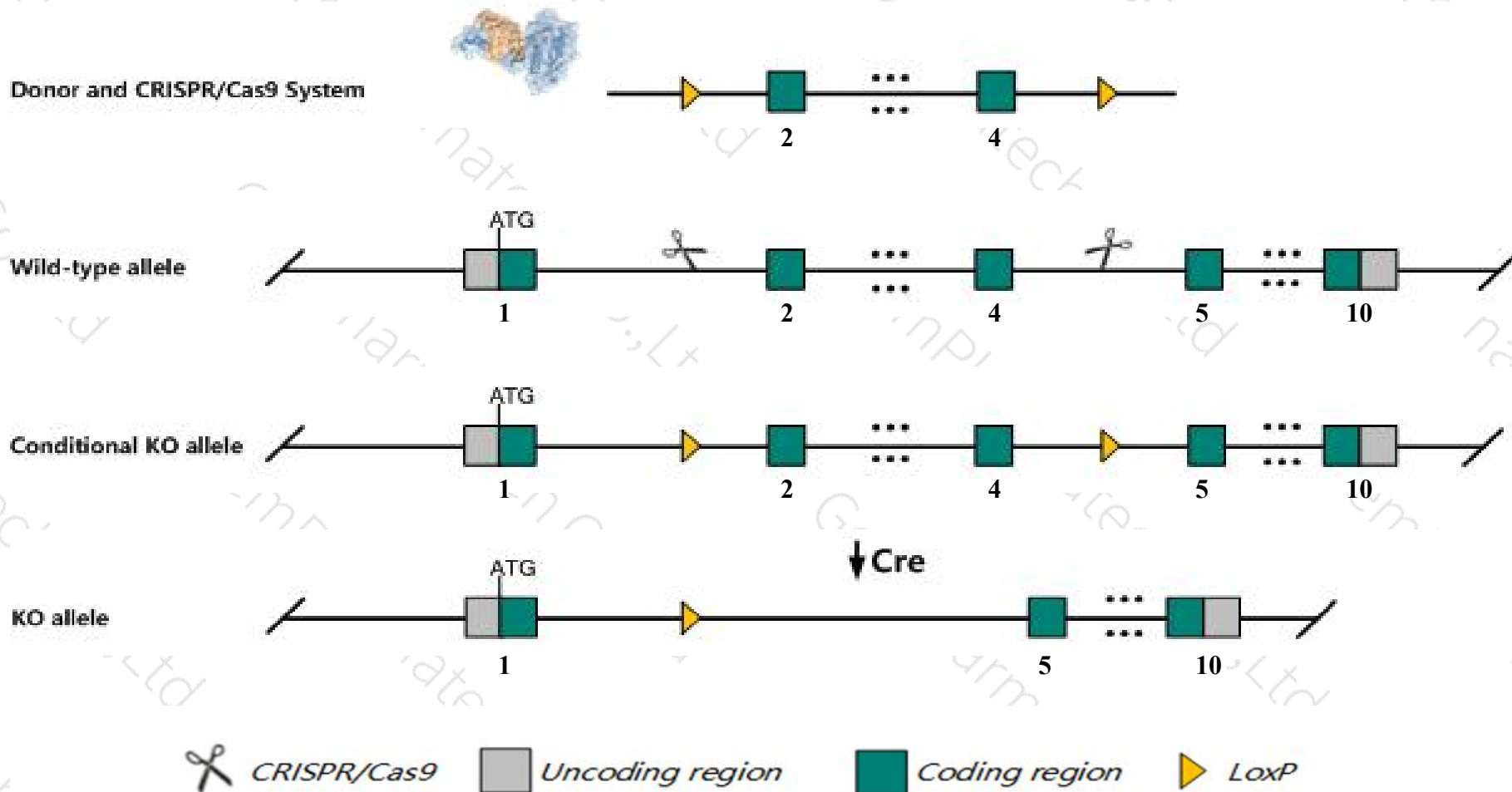
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



Technical routes

- The *Oscpl* gene has 4 transcripts. According to the structure of *Oscpl* gene, exon2-exon4 of *Oscpl*-201 (ENSMUST00000035497.4) transcript is recommended as the knockout region. The region contains 404bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Oscpl* 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 *Oscpl* gene is located on the Chr4. 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)

Oscp1 organic solute carrier partner 1 [Mus musculus (house mouse)]

Gene ID: 230751, updated on 19-Mar-2019

Summary



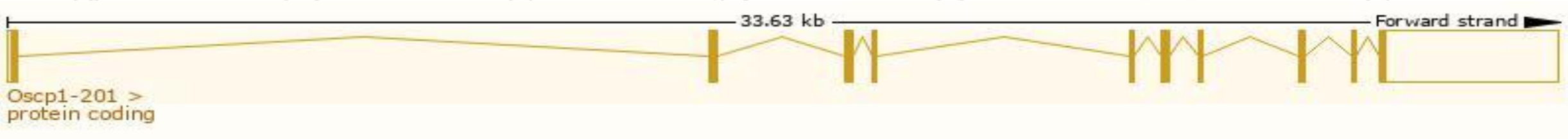
Official Symbol	Oscp1 provided by MGI
Official Full Name	organic solute carrier partner 1 provided by MGI
Primary source	MGI:MGI:1916308
See related	Ensembl:ENSMUSG00000042616
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1810007P19Rik, 5730415O04, 6030436A01Rik
Expression	Biased expression in testis adult (RPKM 14.5), frontal lobe adult (RPKM 1.7) and 7 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

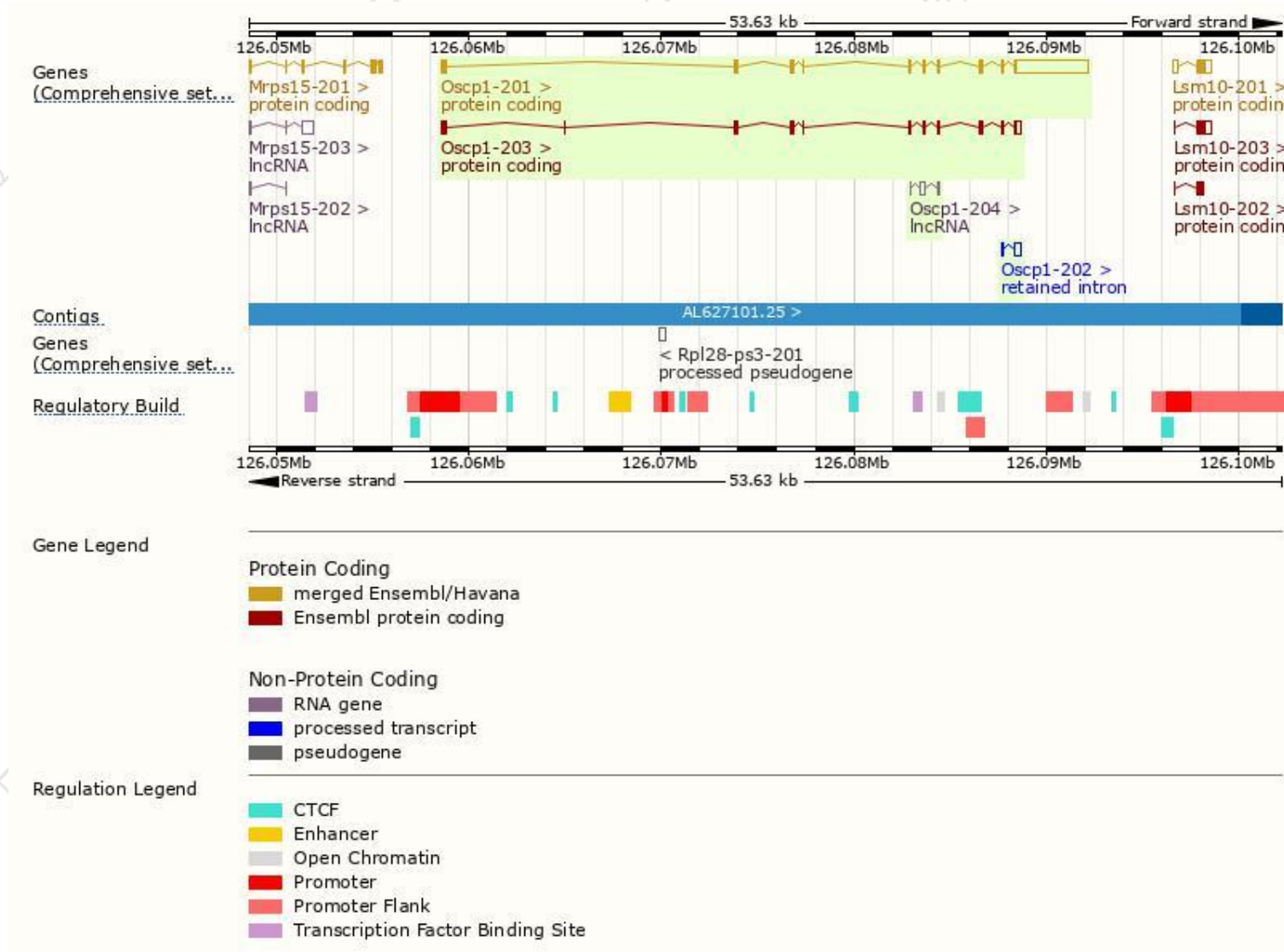
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Oscp1-201	ENSMUST00000035497.4	5013	379aa	Protein coding	CCDS38879	A2A8Y5 Q8BHW2	TSL:1 GENCODE basic APPRIS P2
Oscp1-203	ENSMUST00000143712.2	1473	389aa	Protein coding	-	A0ZV96	TSL:1 GENCODE basic APPRIS ALT2
Oscp1-202	ENSMUST00000129968.1	429	No protein	Retained intron	-	-	TSL:1
Oscp1-204	ENSMUST00000153138.1	402	No protein	lncRNA	-	-	TSL:3

The strategy is based on the design of *Oscp1-201* transcript,The transcription is shown below



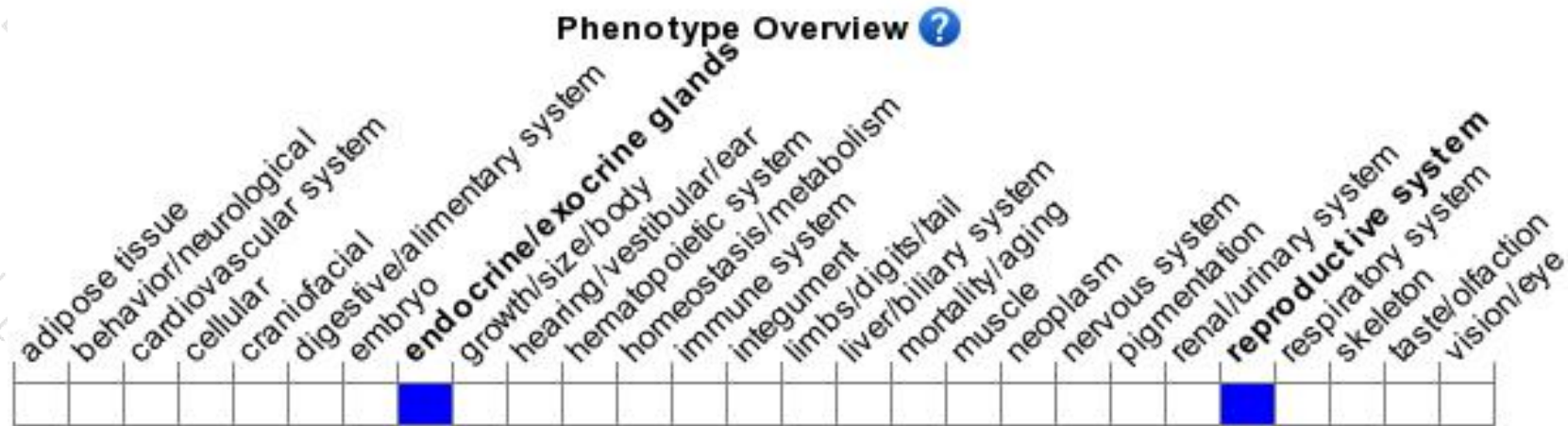
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

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