

Ooep Cas9-KO Strategy

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Project Overview

Project Name

Ooep

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Ooep* gene has 1 transcript. According to the structure of *Ooep* gene, exon1-exon3 of *Ooep-201* (ENSMUST00000034900.7) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ooep* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a null allele exhibit female infertility associated with a failure of embryos to progress beyond the 2 cell stage.
- The *Ooep* 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Ooep oocyte expressed protein [*Mus musculus* (house mouse)]

Gene ID: 67968, updated on 1-Oct-2019

Summary

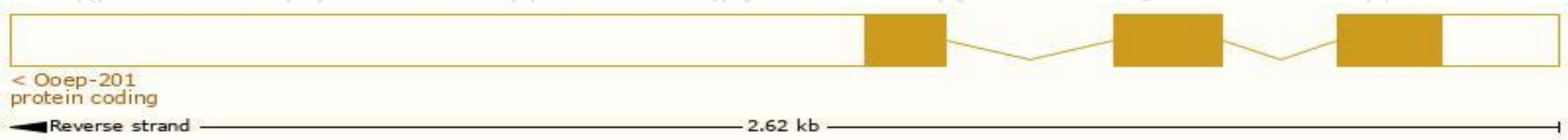
Official Symbol	Ooep provided by MGI
Official Full Name	oocyte expressed protein provided by MGI
Primary source	MGI:MGI:1915218
See related	Ensembl:ENSMUSG00000032346
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Sddr; Floped; Moep19; 2410146L05Rik
Expression	Biased expression in bladder adult (RPKM 8.3), ovary adult (RPKM 5.3) and 5 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

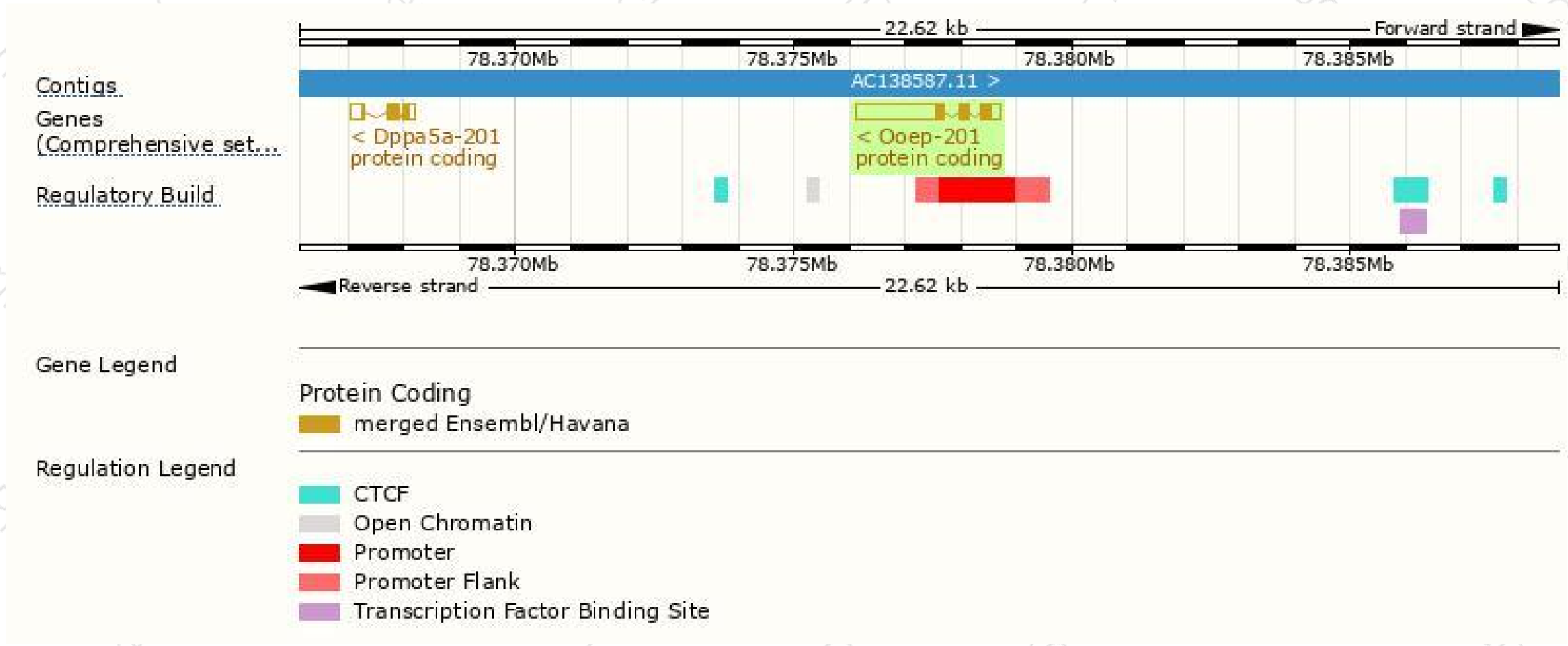
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ooep-201	ENSMUST00000034900.7	2138	164aa	Protein coding	CCDS23361	Q9CWE6	TSL:1 GENCODE basic APPRIS P1

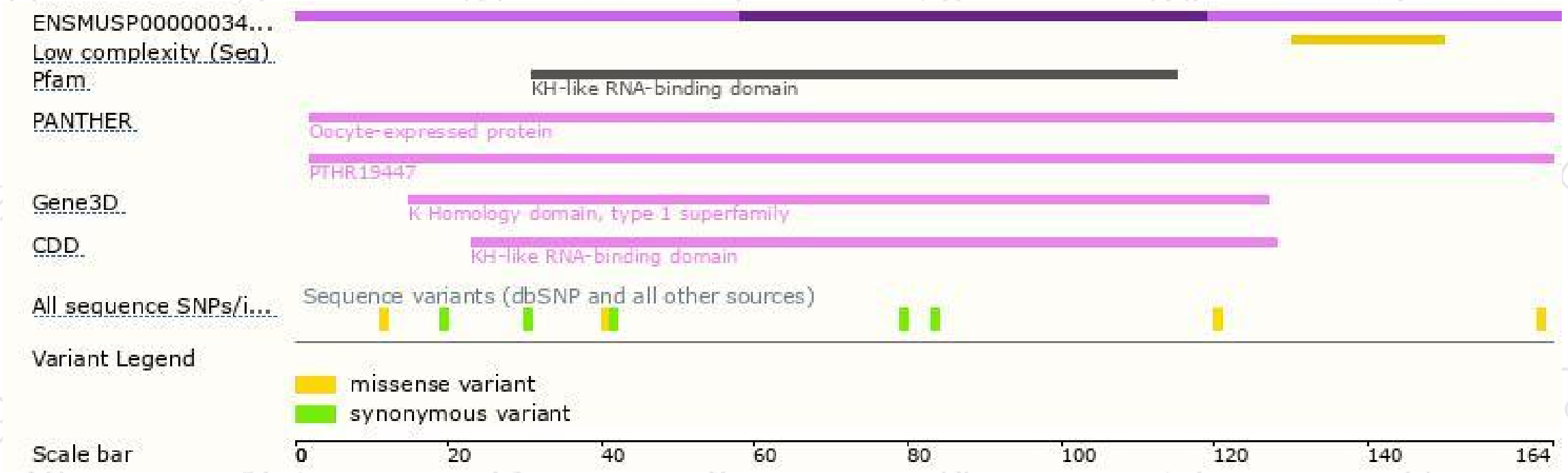
The strategy is based on the design of *Ooep-201* transcript, The transcription is shown below



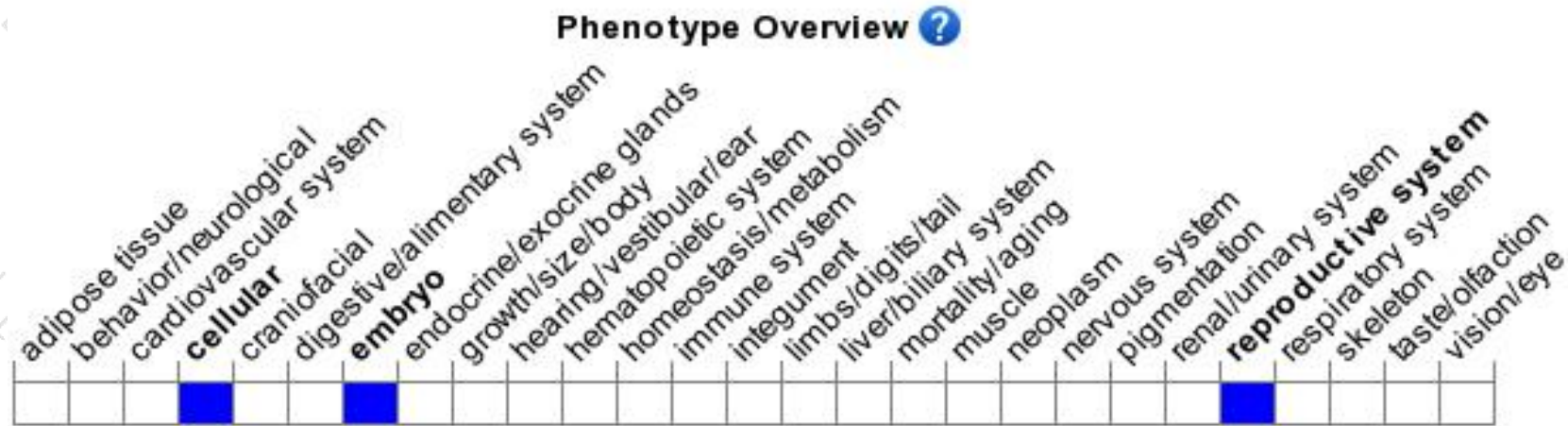
Genomic location distribution



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/>).

According to the existing MGI data, Mice homozygous for a null allele exhibit female infertility associated with a failure of embryos to progress beyond the 2 cell stage.

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

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