

***Foxo4* Cas9-KO Strategy**

Designer:

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Design Date:

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Project Overview

Project Name

Foxo4

Project type

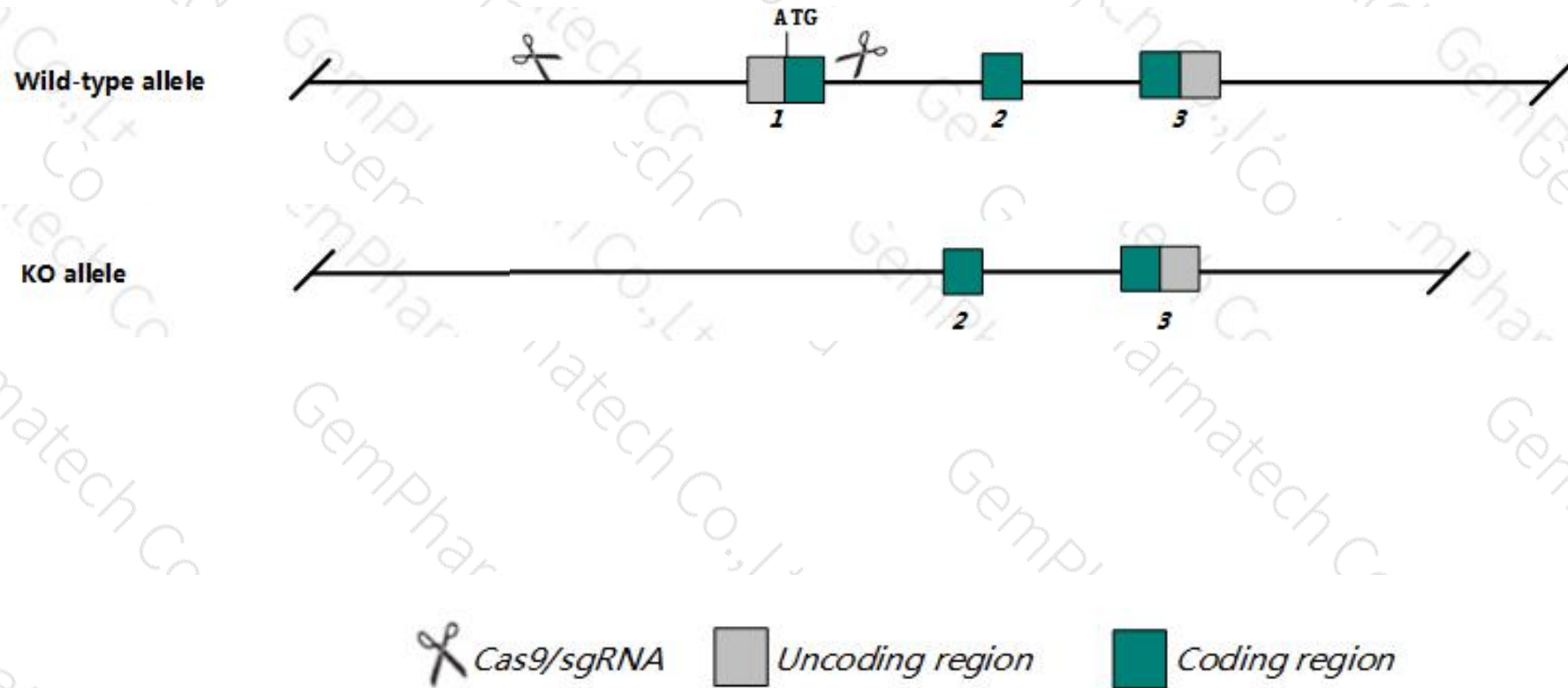
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Foxo4* gene. The schematic diagram is as follows:



- The *Foxo4* gene has 3 transcripts. According to the structure of *Foxo4* gene, exon1 of *Foxo4-201* (ENSMUST00000062000.5) transcript is recommended as the knockout region. The region contains the predicted promoter sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Foxo4* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice hemizygous and homozygous for a knock-out allele are viable, fertile and grossly normal with no detectable histological abnormalities in most tissues.
- The Foxo4 gene is located on the ChrX. 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)

Foxo4 forkhead box O4 [*Mus musculus* (house mouse)]

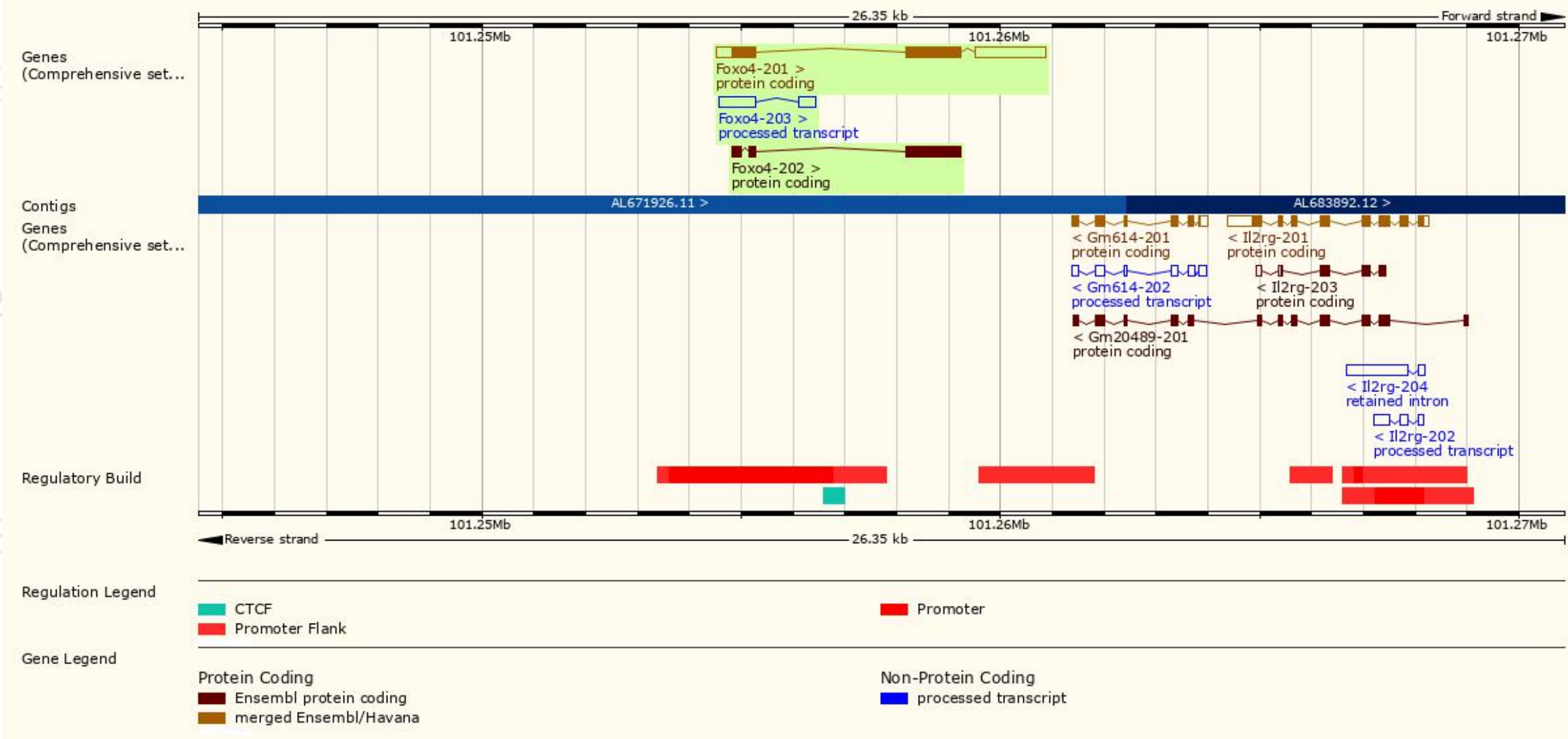
Gene ID: 54601, updated on 17-Oct-2018

Summary

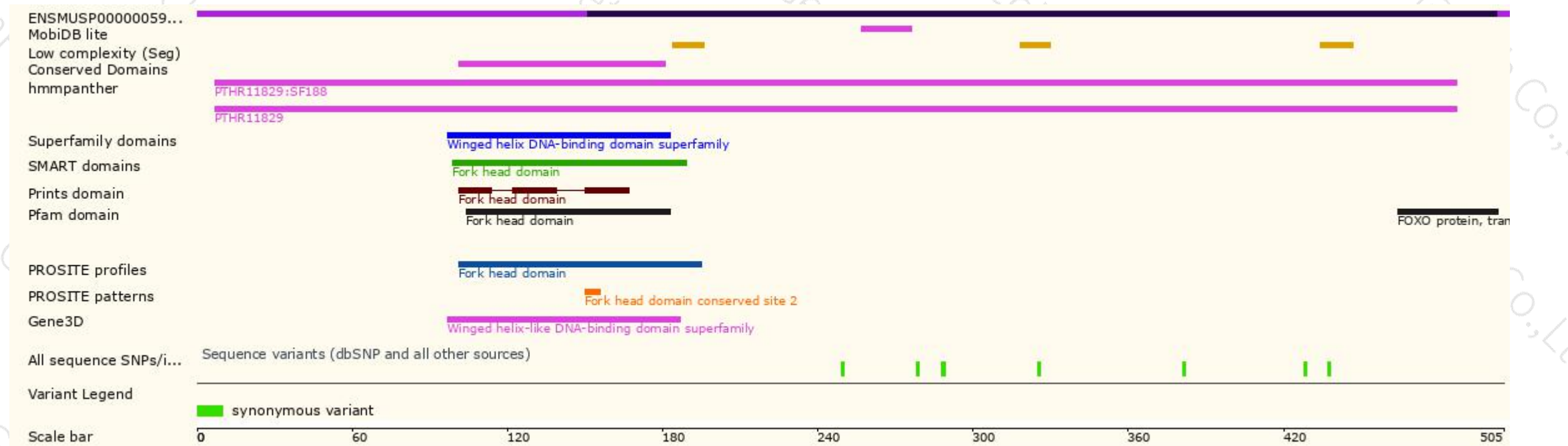


Official Symbol	Foxo4 provided by MGI
Official Full Name	forkhead box O4 provided by MGI
Primary source	MGI:MGI:1891915
See related	Ensembl:ENSMUSG00000042903 Vega:OTTMUSG00000018205
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	afx; Afxh; Mllt7
Expression	Broad expression in placenta adult (RPKM 68.4), limb E14.5 (RPKM 10.1) and 21 other tissues See more
Orthologs	human all

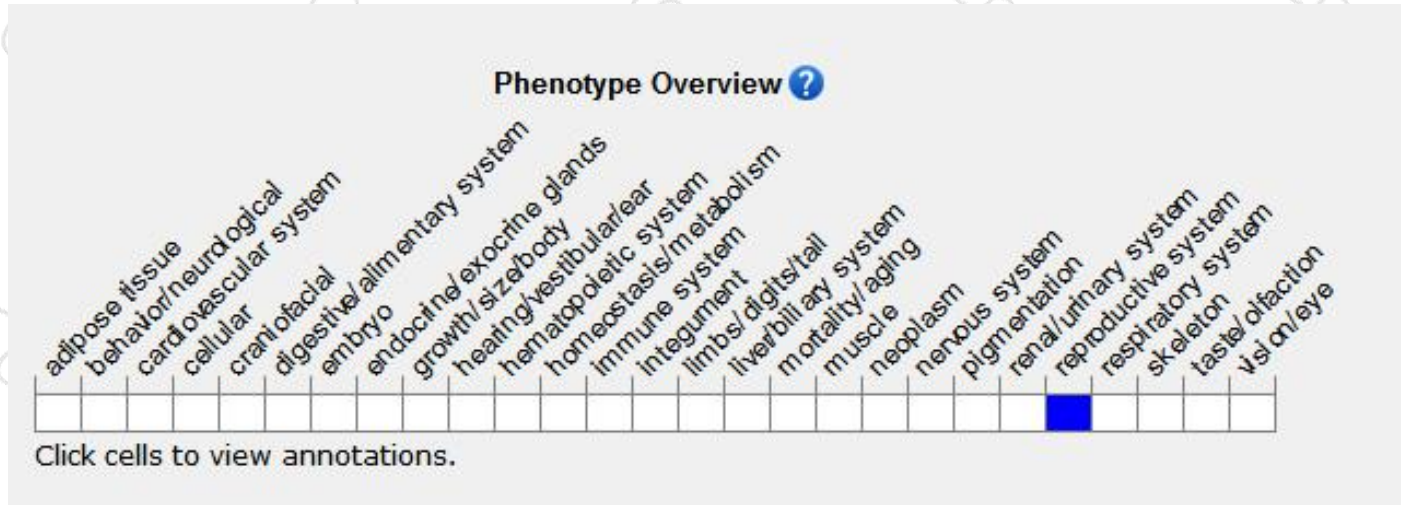
Genomic location distribution



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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