

Fbxw14 Cas9-KO Strategy

Designer: Xueting Zhang

Design Date: 2019-8-2

Project Overview



Project Name

Fbxw14

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fbxw14* gene. The schematic diagram is as follows:



- The *Fbxw14* gene has 4 transcripts. According to the structure of *Fbxw14* gene, exon2-exon9 of *Fbxw14-203* (ENSMUST00000198844.4) transcript is recommended as the knockout region. The region contains 1205bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fbxw14* gene. The brief process is as follows: CRISPR/Cas9 system

- Because the incompleteness of the transcript *Fbxw14*-202&204, the influence on these transcripts is unknown in this strategy.
- The *Fbxw14* 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)

Fbxw14 F-box and WD-40 domain protein 14 [Mus musculus (house mouse)]

Gene ID: 50757, updated on 31-Jan-2019

Summary



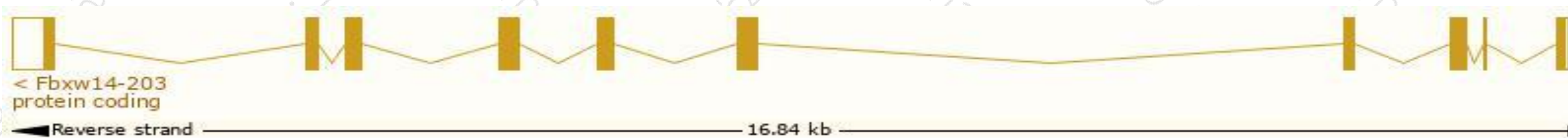
Official Symbol	Fbxw14 provided by MGI
Official Full Name	F-box and WD-40 domain protein 14 provided by MGI
Primary source	MGI:MGI:1354703
See related	Ensembl:ENSMUSG00000105589
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AU045528, E330009N23Rik, Fbx12, Fbxo12
Expression	Restricted expression toward ovary adult (RPKM 1.2) See more

Transcript information (Ensembl)

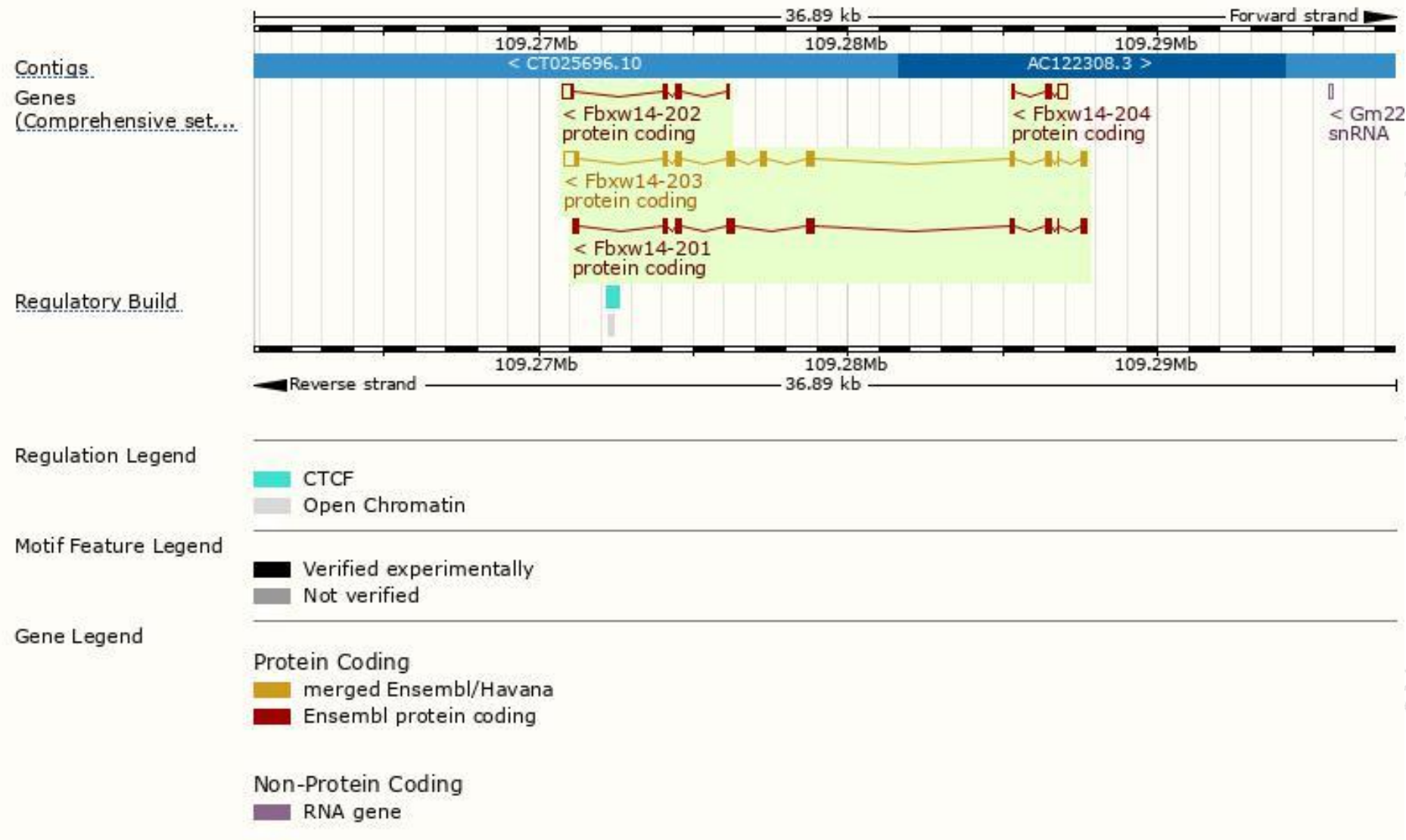
The gene has 4 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fbxw14-203	ENSMUST00000198844.4	1786	466aa	Protein coding	CCDS23550	Q8C2Y5	TSL:1 GENCODE basic APPRIS P3
Fbxw14-201	ENSMUST00000112041.5	1332	413aa	Protein coding	CCDS81079	Q4FZL9	TSL:1 GENCODE basic APPRIS ALT2
Fbxw14-202	ENSMUST00000198048.4	659	130aa	Protein coding	-	A0A0G2JFD3	CDS 5' incomplete TSL:5
Fbxw14-204	ENSMUST00000198928.1	583	76aa	Protein coding	-	A0A0G2JF22	CDS 3' incomplete TSL:3

The strategy is based on the design of *Fbxw14-203* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

