

Sox14 Cas9-KO Strategy

Designer:

Daohua Xu

Reviewer:

Huimin Su

Design Date:

2020-2-17

Project Overview



Project Name

Sox14

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Sox14* gene. The schematic diagram is as follows:



- The *Sox14* gene has 2 transcripts. According to the structure of *Sox14* gene, exon1 of *Sox14-201* (ENSMUST00000054819.9) 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 *Sox14* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

- The *Sox14* 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)

Sox14 SRY (sex determining region Y)-box 14 [Mus musculus (house mouse)]

Gene ID: 20669, updated on 31-Jan-2019

Summary

Official Symbol	Sox14 provided by MGI
Official Full Name	SRY (sex determining region Y)-box 14 provided by MGI
Primary source	MGI:MGI:98362
See related	Ensembl:ENSMUSG00000053747
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
Orthologs	human all

Transcript information (Ensembl)

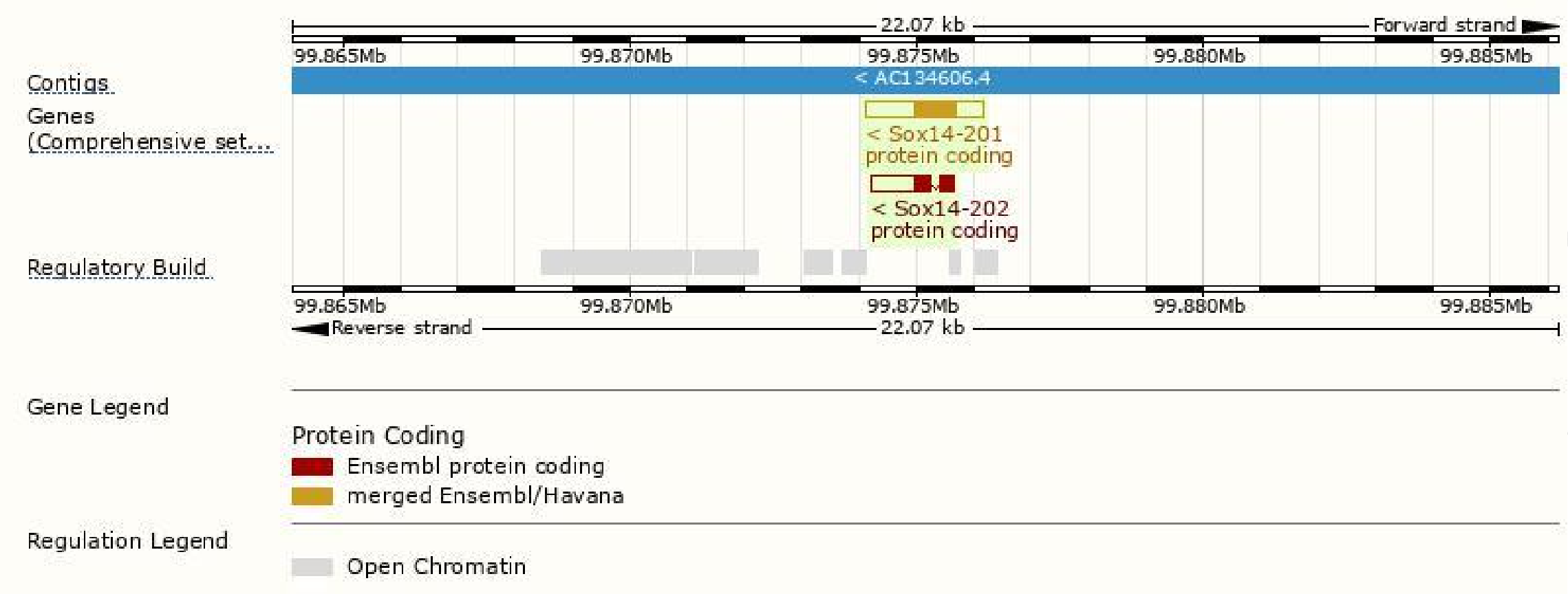
The gene has 2 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Sox14-201	ENSMUST00000054819.9	2065	240aa	Protein coding	CCDS57695	Q04892 Q3UUP3	TSL:NA GENCODE basic APPRIS P1
Sox14-202	ENSMUST00000183065.1	1274	177aa	Protein coding	-	S4R1I8	CDS 5' incomplete TSL:3

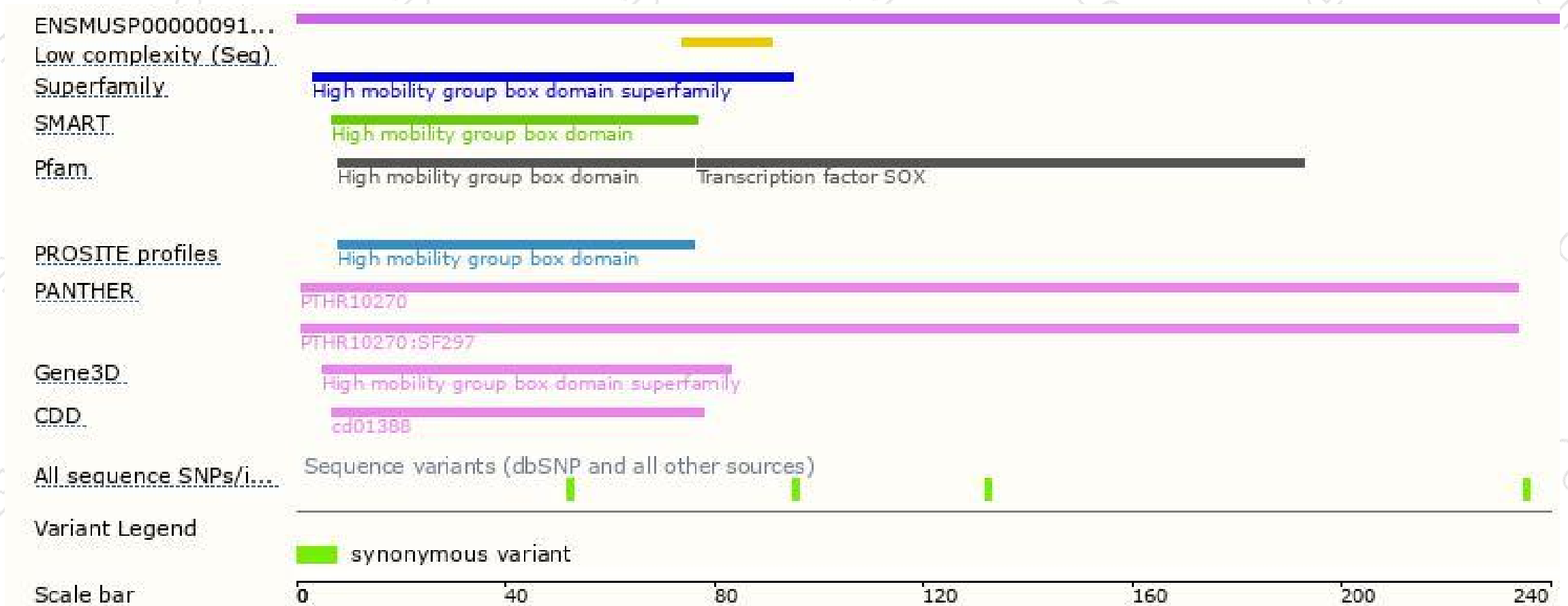
The strategy is based on the design of *Sox14-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

