

Lbx2 Cas9-KO Strategy

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Project Overview

Project Name

Lbx2

Project type

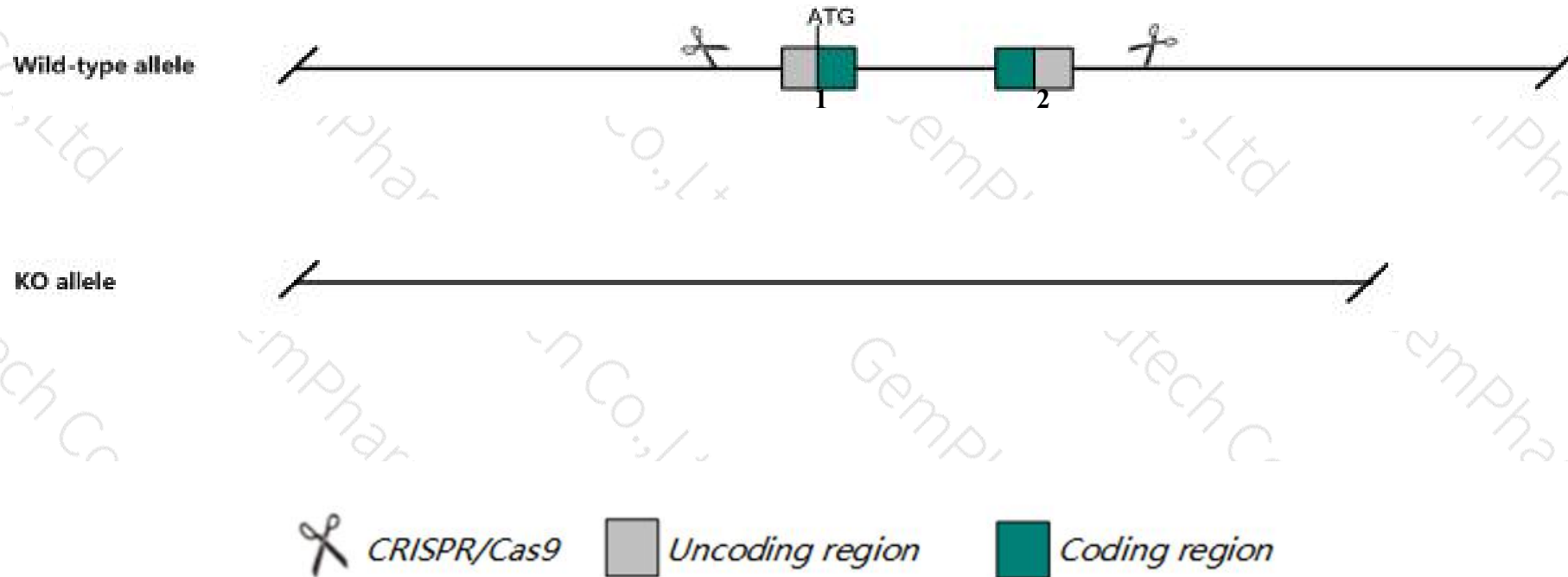
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Lbx2* gene. The schematic diagram is as follows:



- The *Lbx2* gene has 2 transcripts. According to the structure of *Lbx2* gene, exon1-exon2 of *Lbx2-201* (ENSMUST00000041265.3) 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 *Lbx2* gene. The brief process is as follows: CRISPR/Cas9 system v

- According to the existing MGI data, Mice homozygous for a knock-out allele are viable, fertile and healthy with no gross developmental defects.
- The *Lbx2* gene is located on the Chr6. 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)

Lbx2 ladybird homeobox 2 [Mus musculus (house mouse)]

Gene ID: 16815, updated on 31-Jan-2019

Summary



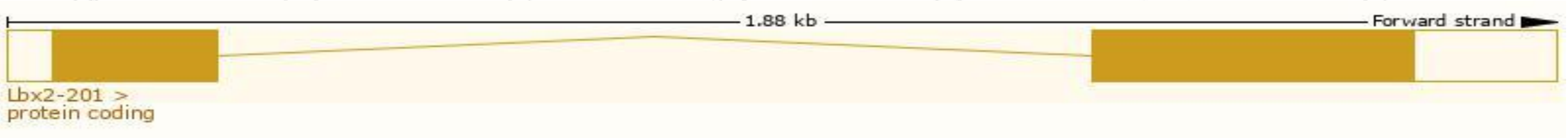
Official Symbol	Lbx2 provided by MGI
Official Full Name	ladybird homeobox 2 provided by MGI
Primary source	MGI:MGI:1342288
See related	Ensembl:ENSMUSG000000034968
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Lbx2h
Expression	Biased expression in adrenal adult (RPKM 19.6), ovary adult (RPKM 6.5) and 1 other tissue See more
Orthologs	human all

Transcript information (Ensembl)

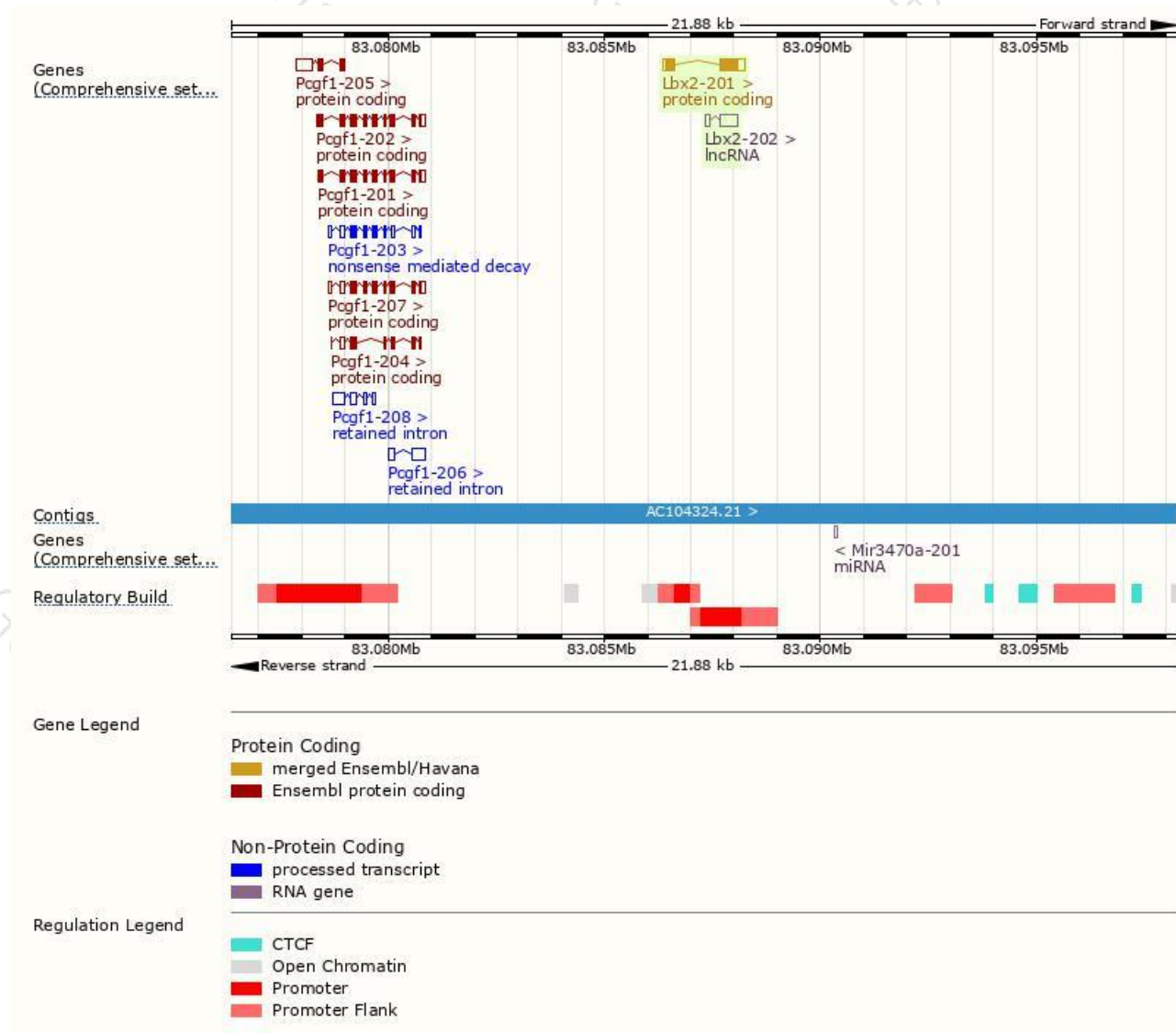
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Lbx2-201	ENSMUST00000041265.3	817	195aa	Protein coding	CCDS20271	Q9WUN8	TSL:1 GENCODE basic APPRIS P1
Lbx2-202	ENSMUST00000151508.1	531	No protein	lncRNA	-	-	TSL:3

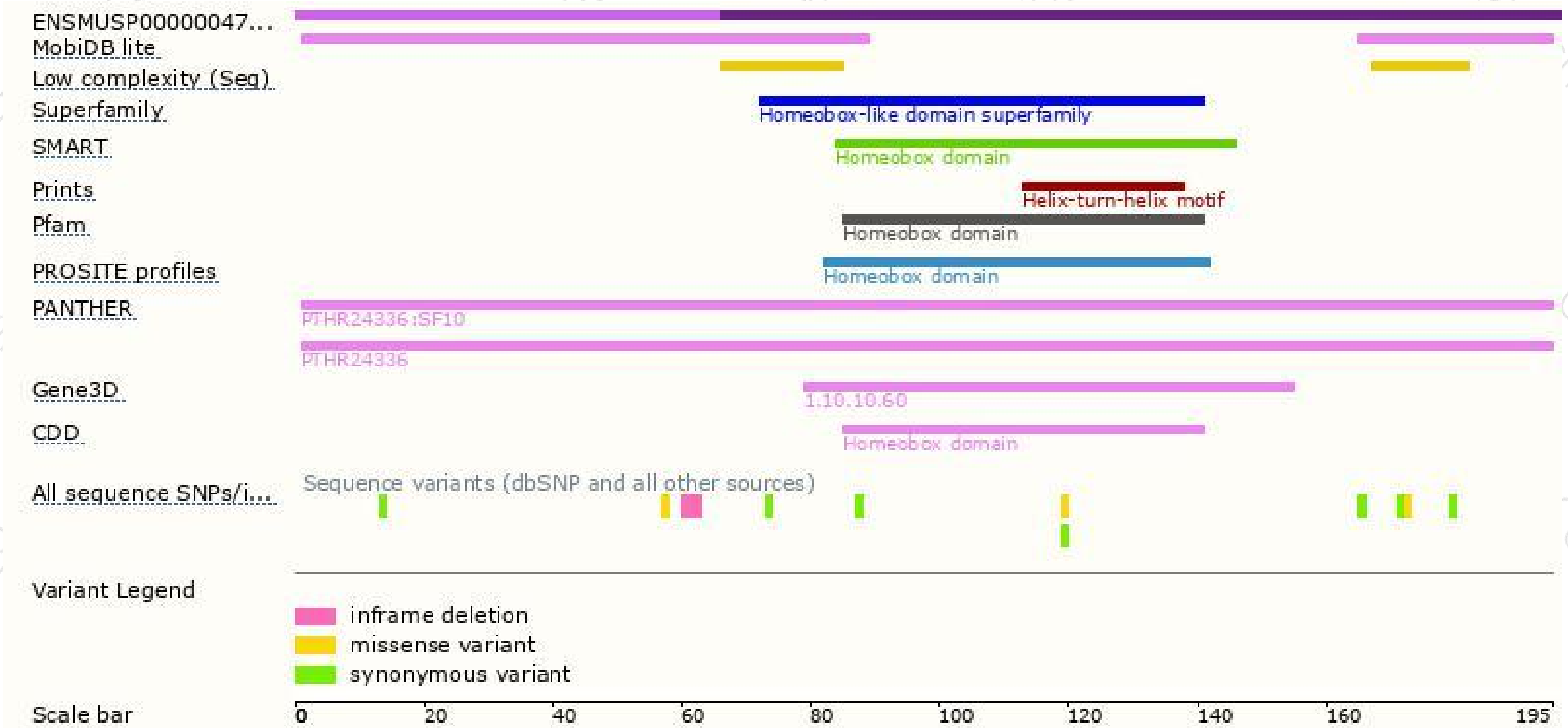
The strategy is based on the design of *Lbx2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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