

Klhl14 Cas9-KO Strategy

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Project Overview

Project Name

Klhl14

Project type

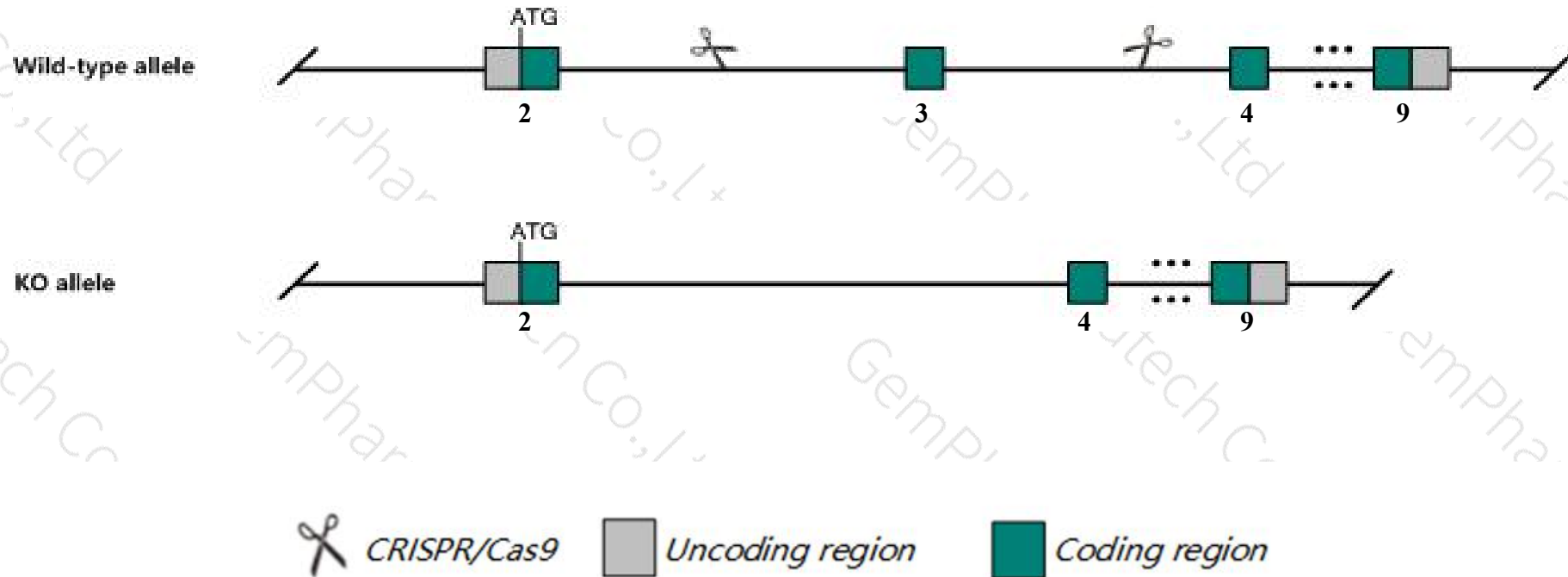
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Klhl14* gene. The schematic diagram is as follows:



- The *Klhl14* gene has 2 transcripts. According to the structure of *Klhl14* gene, exon3 of *Klhl14-202* (ENSMUST00000122333.1) transcript is recommended as the knockout region. The region contains 122bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Klhl14* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a knock-out allele exhibit preweaning lethality. Mice heterozygous for the allele exhibit decreased B-1a cells and increased B-1b cells.
- The *Klhl14* gene is located on the Chr18. 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)

Klhl14 kelch-like 14 [*Mus musculus* (house mouse)]

Gene ID: 225266, updated on 17-Aug-2019

Summary



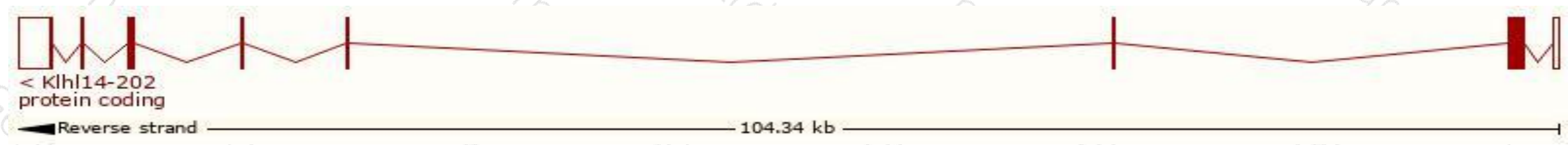
Official Symbol	Klhl14 provided by MGI
Official Full Name	kelch-like 14 provided by MGI
Primary source	MGI:MGI:1921249
See related	Ensembl:ENSMUSG00000042514
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	printor; AI785250; 6330403N15Rik
Expression	Biased expression in adrenal adult (RPKM 16.7), genital fat pad adult (RPKM 4.1) and 6 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

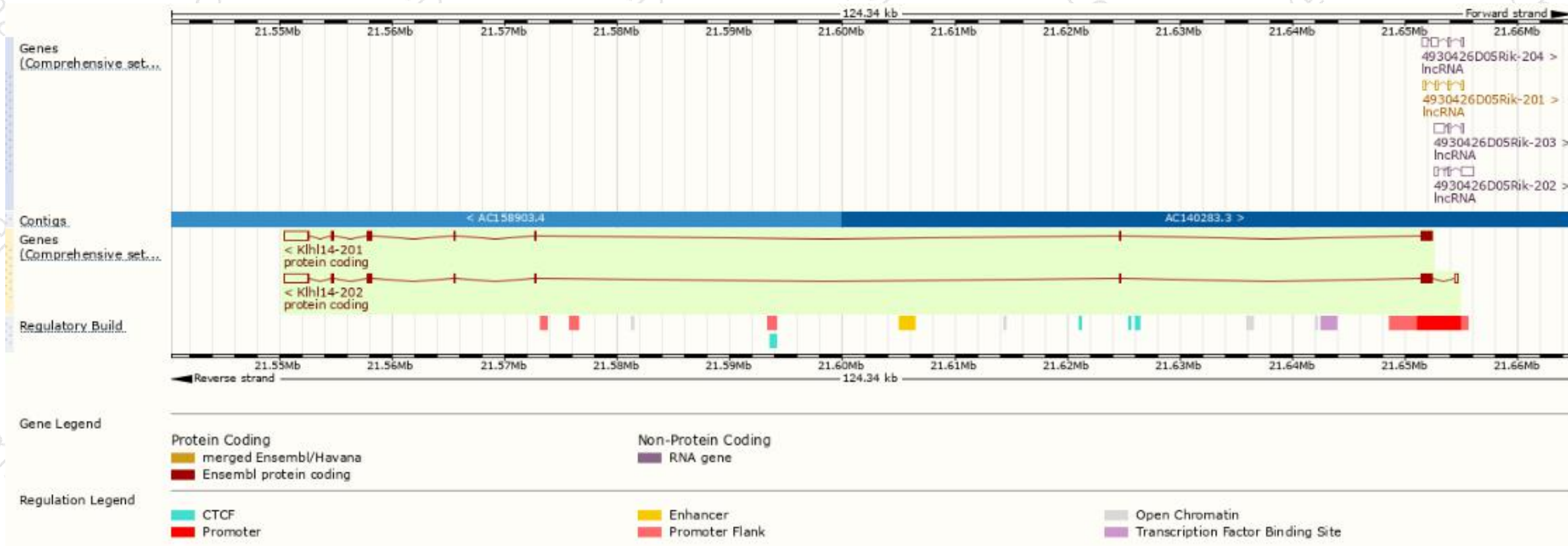
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags		
Klhl14-202	ENSMUST00000122333.1	4423	630aa	Protein coding	CCDS37748	Q69ZK5	TSL:5	GENCODE basic	APPRIS P1
Klhl14-201	ENSMUST00000049105.10	4018	630aa	Protein coding	CCDS37748	Q69ZK5	TSL:1	GENCODE basic	APPRIS P1

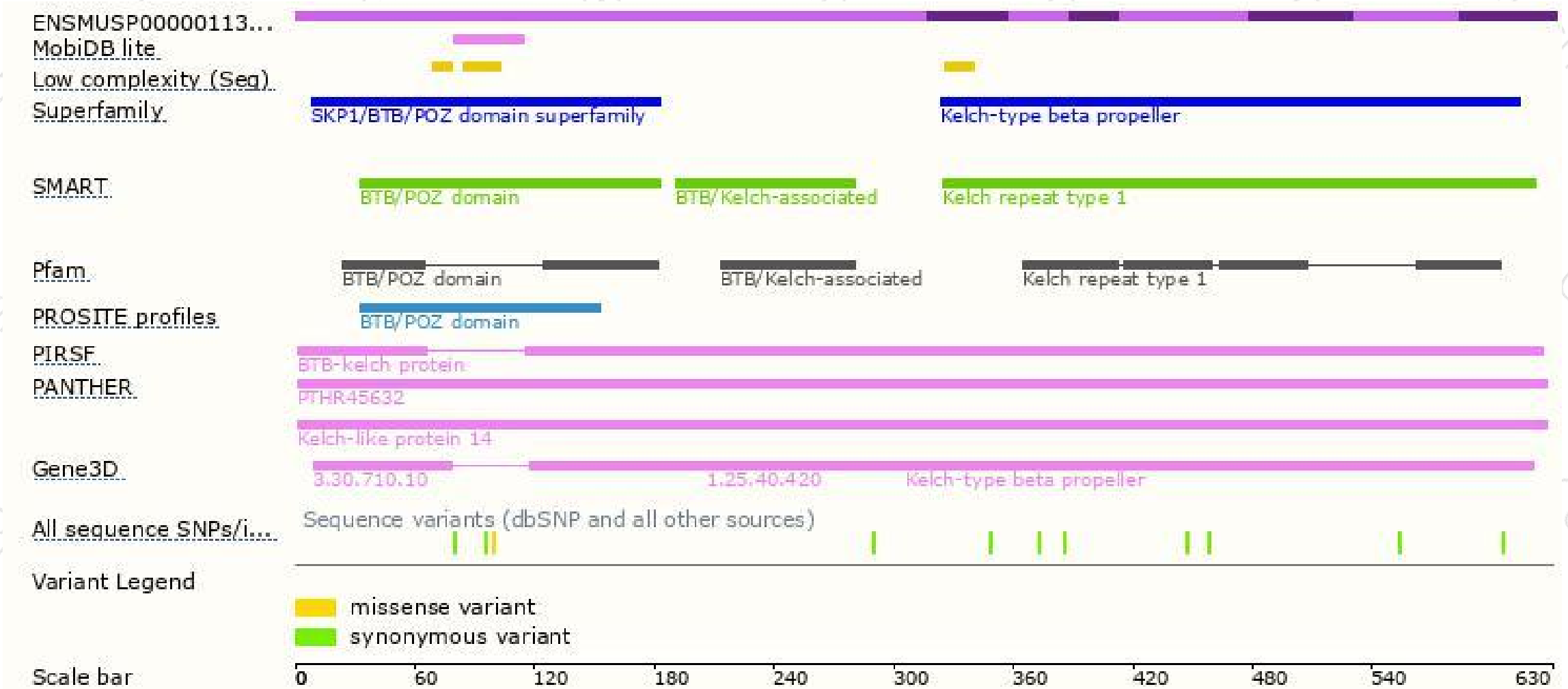
The strategy is based on the design of *Klhl14-202* transcript,The transcription is shown below



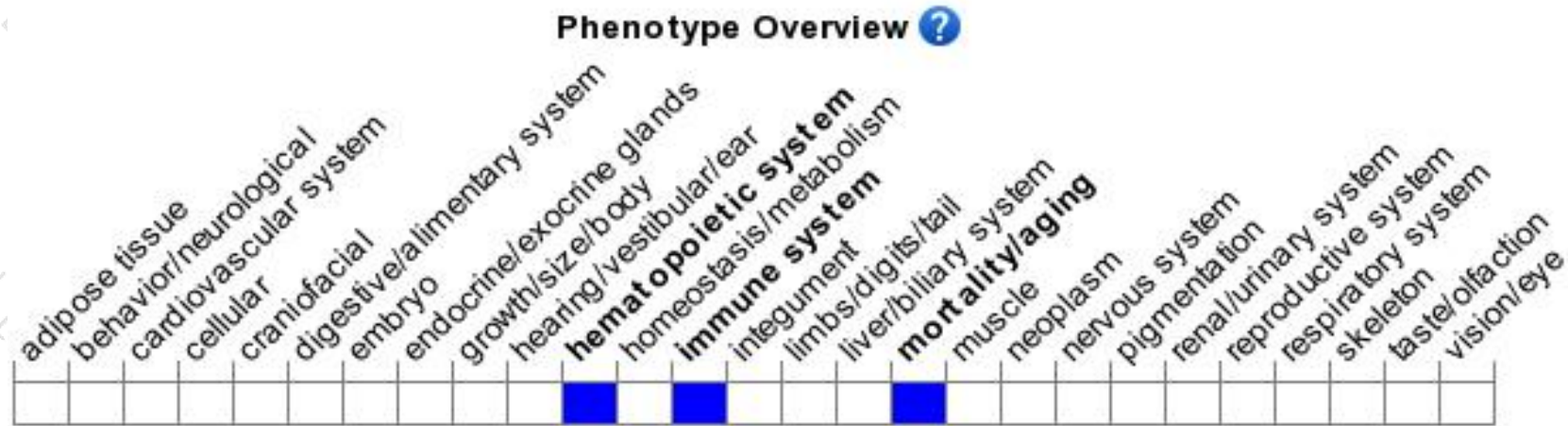
Genomic location distribution



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 knock-out allele exhibit preweaning lethality. Mice heterozygous for the allele exhibit decreased B-1a cells and increased B-1b cells.

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

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