

Asb2 Cas9-KO Strategy

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Project Overview

Project Name

Asb2

Project type

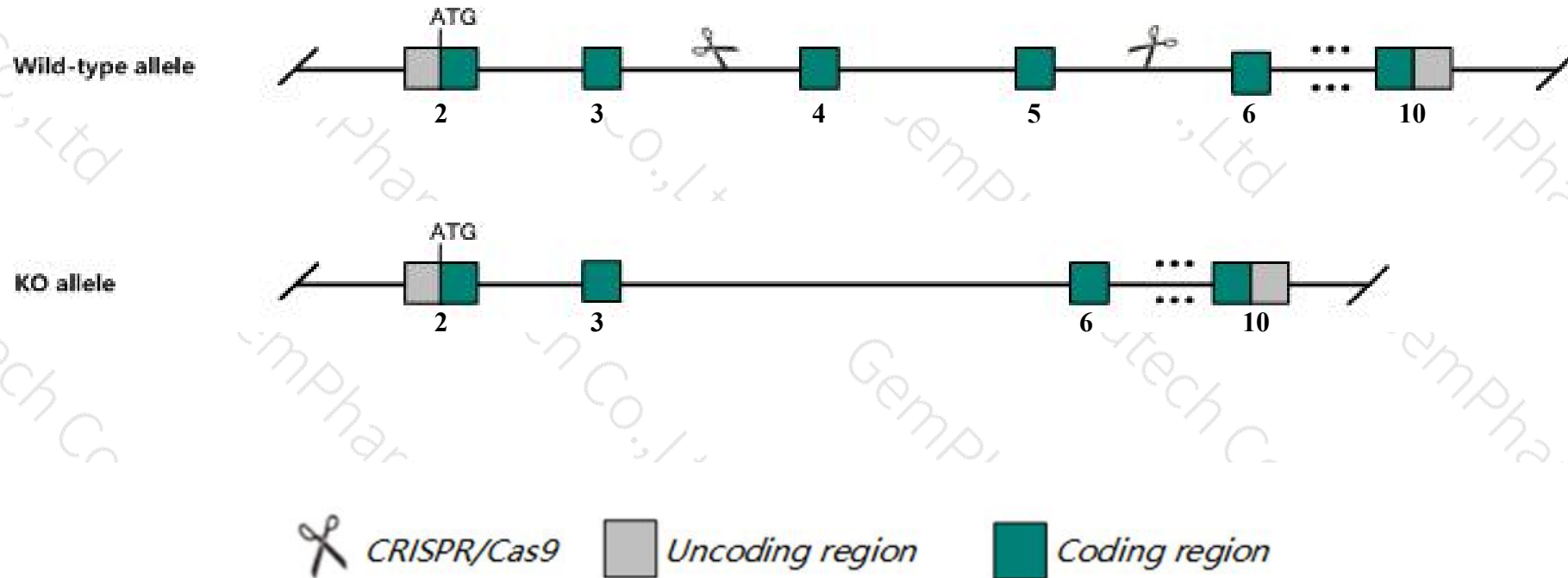
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Asb2* gene. The schematic diagram is as follows:



- The *Asb2* gene has 4 transcripts. According to the structure of *Asb2* gene, exon4-exon5 of *Asb2-201* (ENSMUST00000021617.13) transcript is recommended as the knockout region. The region contains 323bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Asb2* gene. The brief process is as follows: CRISPR/Cas9 system v

- According to the existing MGI data, Mice homozygous for a conditional cells activated in the immune system exhibit impaired immature dendritic cell migration.
- The KO region contains functional region of the *Gm15523* gene. Knockout the region may affect the function of *Gm15523* gene.
- The *Asb2* gene is located on the Chr12. 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)

Asb2 ankyrin repeat and SOCS box-containing 2 [Mus musculus (house mouse)]

Gene ID: 65256, updated on 31-Jan-2019

Summary



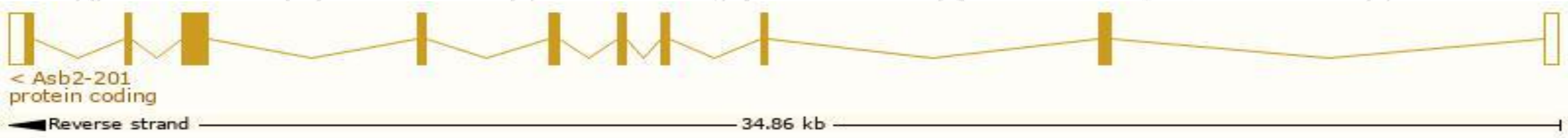
Official Symbol	Asb2 provided by MGI
Official Full Name	ankyrin repeat and SOCS box-containing 2 provided by MGI
Primary source	MGI:MGI:1929743
See related	Ensembl:ENSMUSG000000021200
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1110008E15Rik
Expression	Biased expression in heart adult (RPKM 165.8), spleen adult (RPKM 62.0) and 11 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

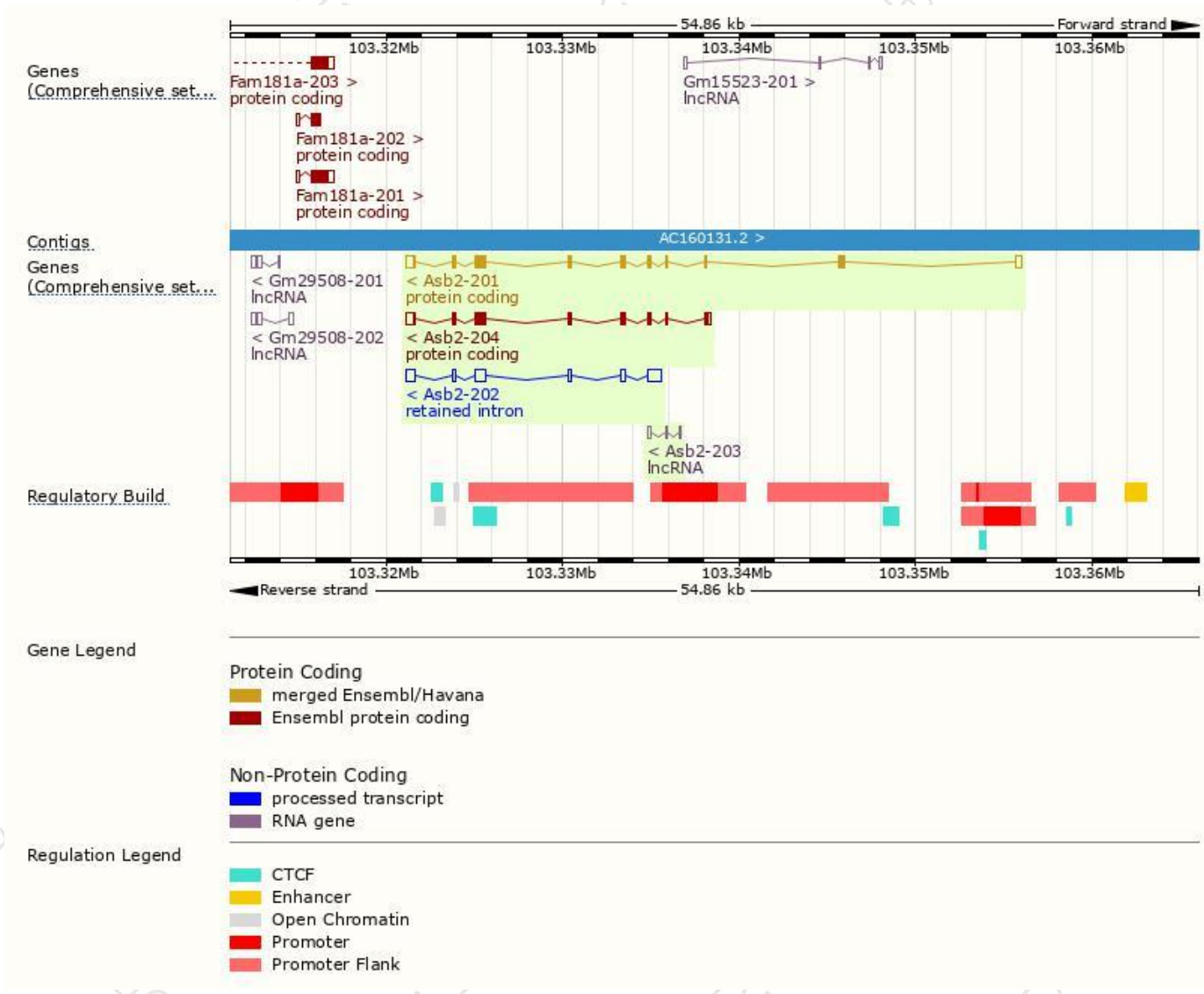
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Asb2-201	ENSMUST00000021617.13	2690	634aa	Protein coding	CCDS26128	Q8K0L0	TSL:1 GENCODE basic APPRIS P2
Asb2-204	ENSMUST00000149431.1	2283	586aa	Protein coding	-	Q8K0L0	TSL:1 GENCODE basic APPRIS ALT 2
Asb2-202	ENSMUST00000127447.1	2399	No protein	Retained intron	-	-	TSL:1
Asb2-203	ENSMUST00000135694.1	383	No protein	lncRNA	-	-	TSL:3

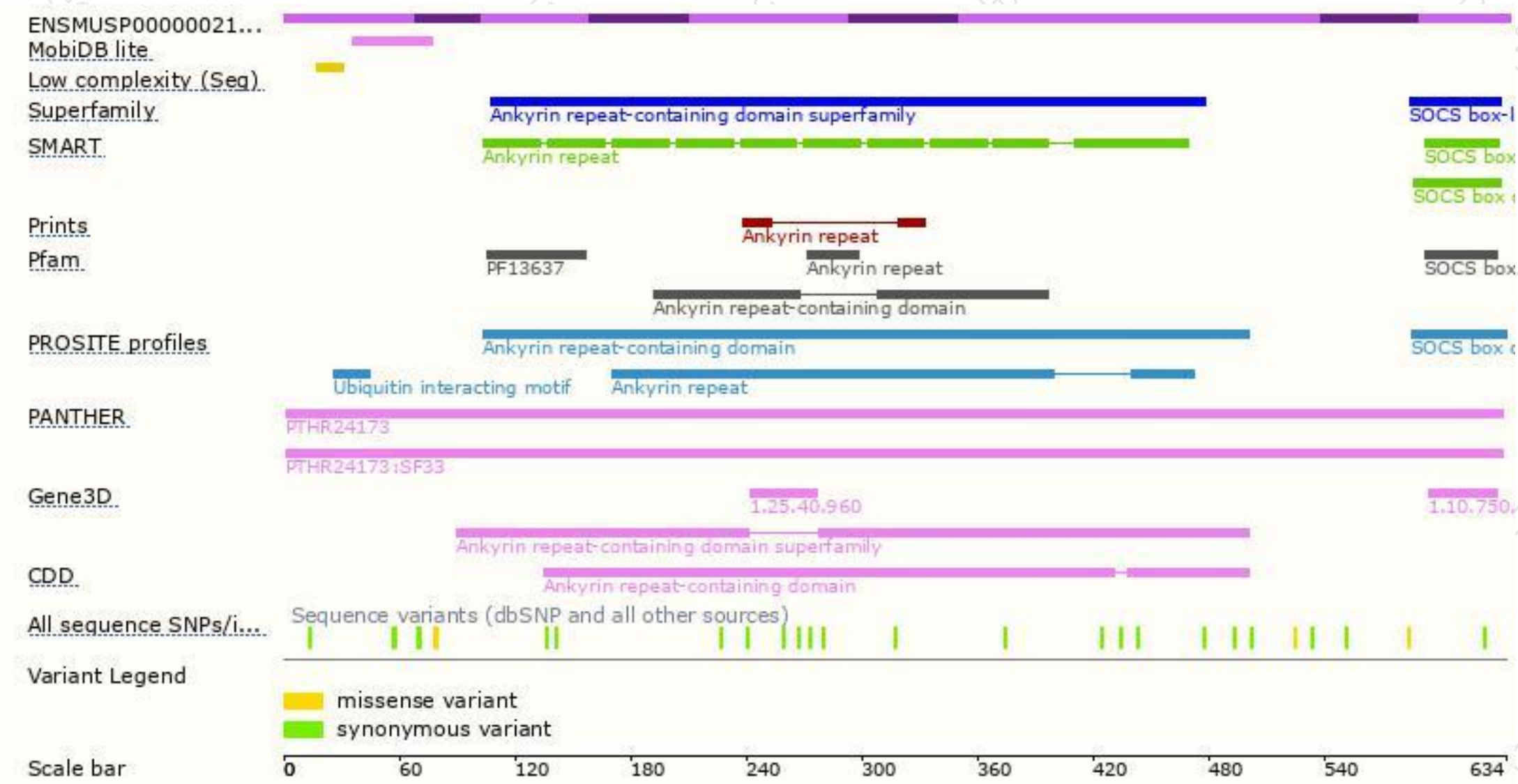
The strategy is based on the design of *Asb2-201* transcript,The transcription is shown below



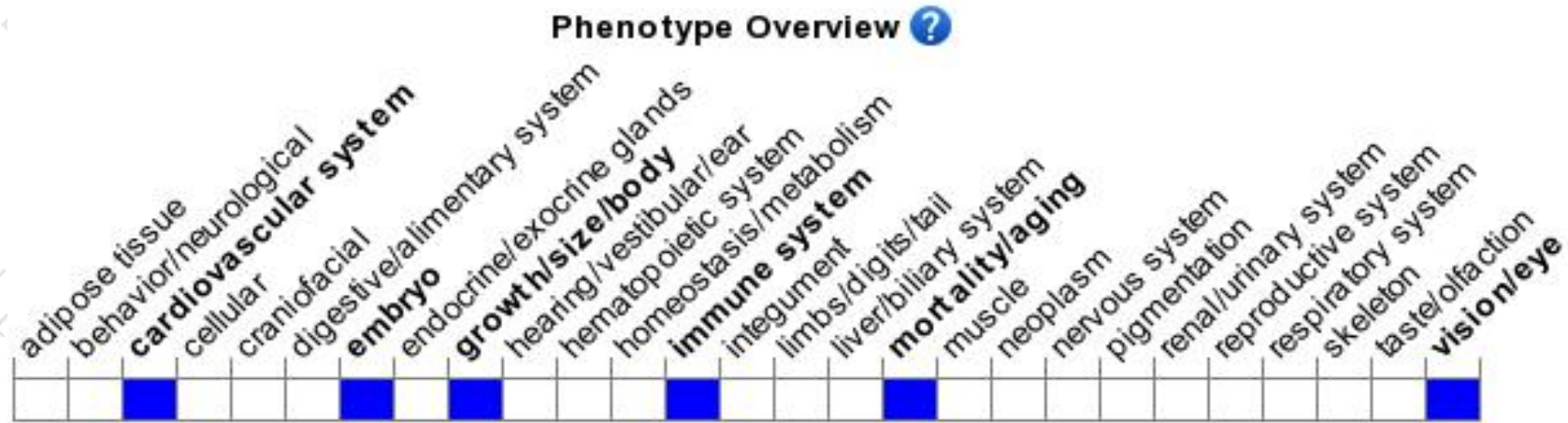
Genomic location distribution



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 conditional cells activated in the immune system exhibit impaired immature dendritic cell migration.

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

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