

Ablim1 Cas9-KO Strategy

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Project Overview

Project Name

Ablim1

Project type

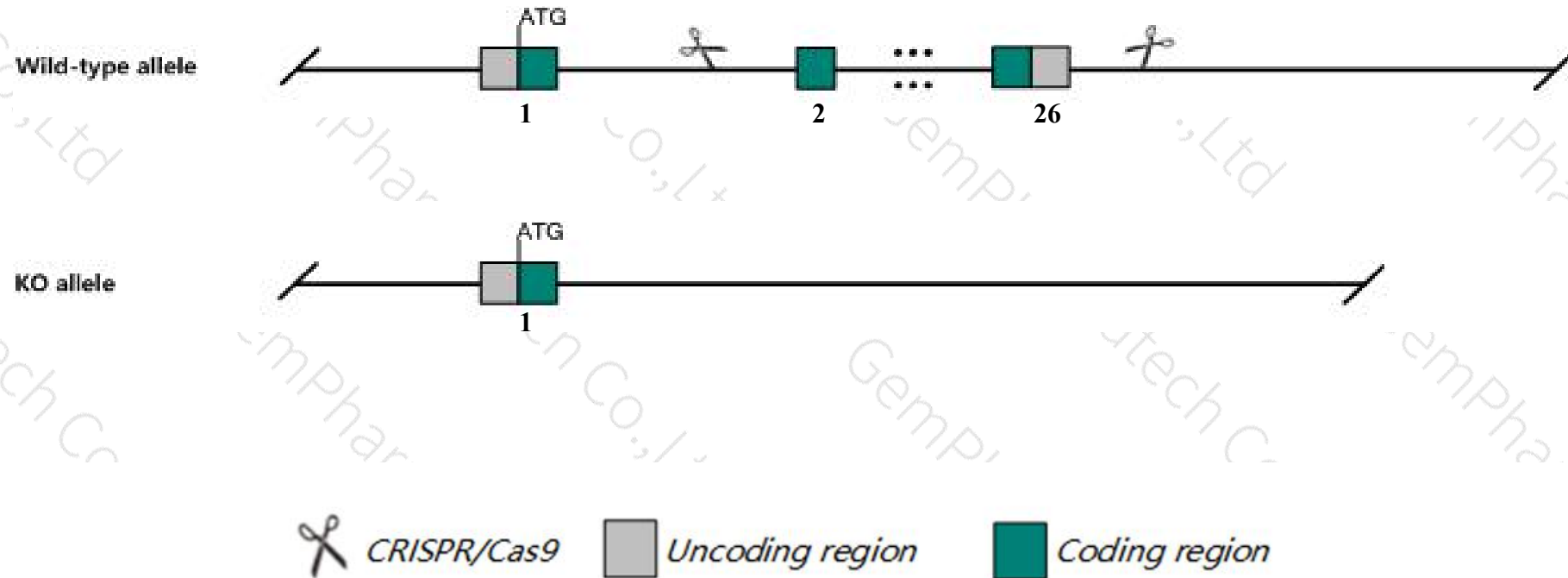
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ablim1* gene. The schematic diagram is as follows:



- The *Ablim1* gene has 21 transcripts. According to the structure of *Ablim1* gene, exon2-exon26 of *Ablim1-201* (ENSMUST00000079360.11) transcript is recommended as the knockout region. The region contains most 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 *Ablim1* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mutant mice lacking the retina-specific isoform are healthy, fertile, and show no defects in retinal development or retinofugal projections.
- The *Ablim1* gene is located on the Chr19. 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)

Ablim1 actin-binding LIM protein 1 [Mus musculus (house mouse)]

Gene ID: 226251, updated on 31-Jan-2019

Summary



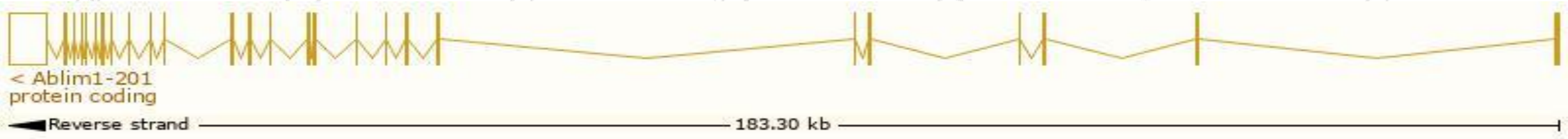
Official Symbol	Ablim1 provided by MGI
Official Full Name	actin-binding LIM protein 1 provided by MGI
Primary source	MGI:MGI:1194500
See related	Ensembl:ENSMUSG00000025085
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2210411C18Rik, 2610209L21Rik, 4833406P10Rik, 9330196J19Rik, AV079770, AW060987, AW215784, Limab1, mKIAA0059
Expression	Ubiquitous expression in thymus adult (RPKM 23.3), heart adult (RPKM 17.9) and 25 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

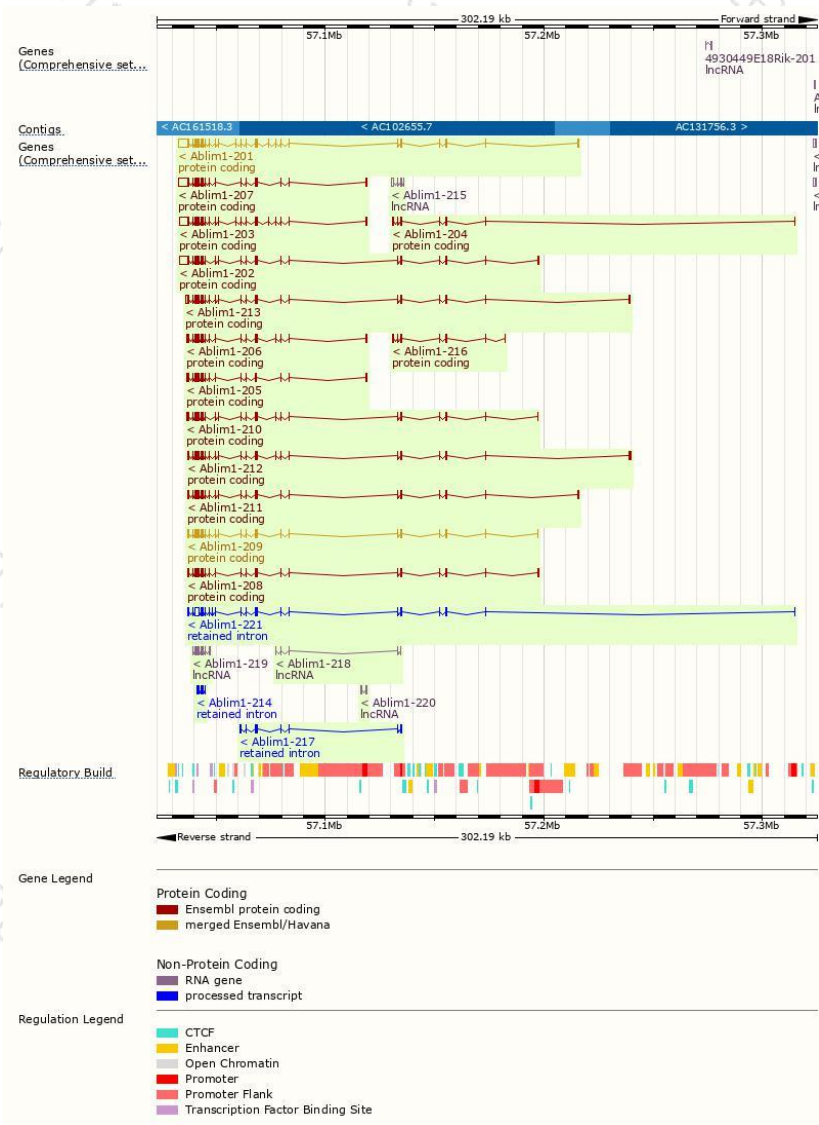
The gene has 21 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ablim1-201	ENSMUST00000079360.11	7152	861aa	Protein coding	CCDS38027	E9QK41	TSL:5 GENCODE basic
Ablim1-202	ENSMUST00000099294.8	6232	654aa	Protein coding	CCDS70964	Q8K4G5	TSL:5 GENCODE basic APPRIS ALT2
Ablim1-207	ENSMUST00000111529.7	5927	426aa	Protein coding	CCDS84456	E9Q9D1	TSL:5 GENCODE basic
Ablim1-203	ENSMUST00000104902.8	5907	545aa	Protein coding	CCDS50478	E9Q030	TSL:5 GENCODE basic
Ablim1-209	ENSMUST00000111546.7	2267	701aa	Protein coding	CCDS50479	Q8K4G5	TSL:5 GENCODE basic APPRIS P3
Ablim1-208	ENSMUST00000111544.7	2231	668aa	Protein coding	CCDS70963	E9Q9C7	TSL:5 GENCODE basic
Ablim1-213	ENSMUST00000111559.7	3184	714aa	Protein coding	-	E9Q9C0	TSL:5 GENCODE basic
Ablim1-212	ENSMUST00000111558.7	3123	744aa	Protein coding	-	E9Q9C1	TSL:5 GENCODE basic
Ablim1-210	ENSMUST00000111550.7	2731	682aa	Protein coding	-	E9Q9C4	TSL:5 GENCODE basic
Ablim1-211	ENSMUST00000111555.7	2562	777aa	Protein coding	-	E9Q9C2	TSL:5 GENCODE basic
Ablim1-206	ENSMUST00000111528.7	2481	454aa	Protein coding	-	E9Q9D2	TSL:5 GENCODE basic
Ablim1-205	ENSMUST00000111526.7	2164	400aa	Protein coding	-	E9Q9Q7	TSL:5 GENCODE basic
Ablim1-204	ENSMUST00000111524.7	1251	268aa	Protein coding	-	Q8K4G5	TSL:1 GENCODE basic
Ablim1-216	ENSMUST00000133369.1	875	292aa	Protein coding	-	F6YHE5	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:3
Ablim1-221	ENSMUST00000156316.7	3603	No protein	Retained intron	-	-	TSL:2
Ablim1-217	ENSMUST00000133782.7	1057	No protein	Retained intron	-	-	TSL:2
Ablim1-214	ENSMUST00000127198.1	656	No protein	Retained intron	-	-	TSL:3
Ablim1-215	ENSMUST00000128212.1	987	No protein	lncRNA	-	-	TSL:1
Ablim1-219	ENSMUST00000137389.7	759	No protein	lncRNA	-	-	TSL:5
Ablim1-220	ENSMUST00000150425.1	717	No protein	lncRNA	-	-	TSL:1
Ablim1-218	ENSMUST00000134430.7	533	No protein	lncRNA	-	-	TSL:3

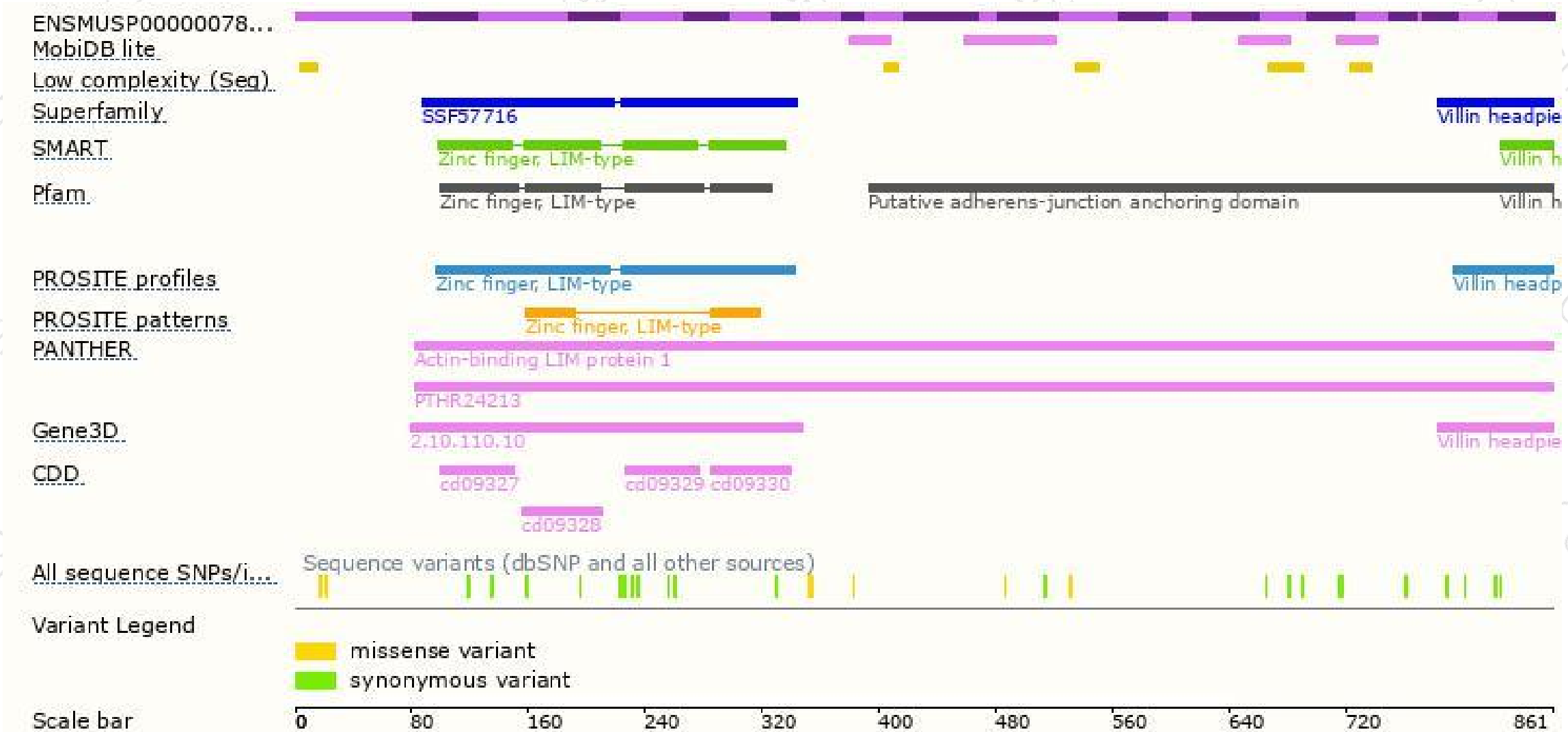
The strategy is based on the design of *Ablim1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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