

Zyg11a Cas9-KO Strategy

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Project Overview

Project Name

Zyg11a

Project type

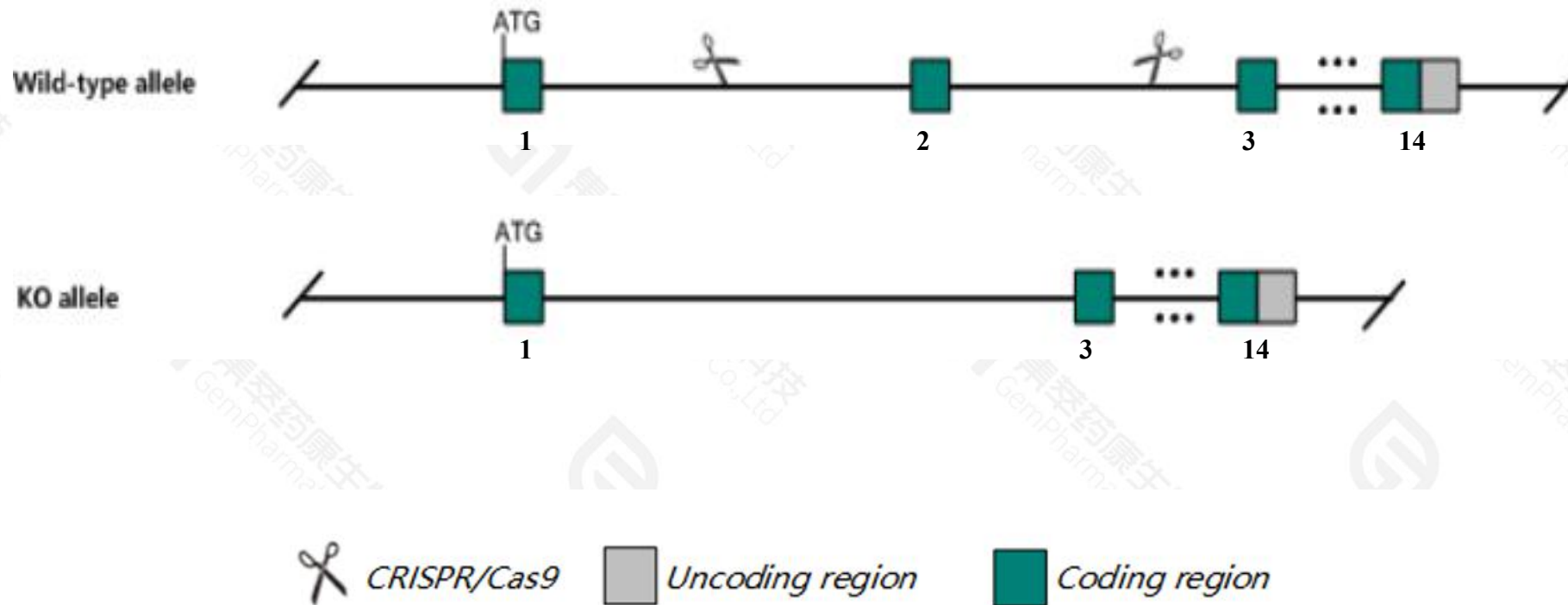
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Zyg11a* gene. The schematic diagram is as follows:



- The *Zyg11a* gene has 3 transcripts. According to the structure of *Zyg11a* gene, exon2 of *Zyg11a*-201(ENSMUST00000043793.7) transcript is recommended as the knockout region. The region contains 166bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Zyg11a* gene. The brief process is as follows: CRISPR/Cas9 system were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The *Zyg11a* gene is located on the Chr4. 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.

Zyg11a zyg-11 family member A, cell cycle regulator [Mus musculus (house mouse)]

Gene ID: 230590, updated on 17-Dec-2020

Summary



Official Symbol Zyg11a provided by [MGI](#)

Official Full Name zyg-11 family member A, cell cycle regulator provided by [MGI](#)

Primary source [MGI:MGI:2446208](#)

See related [Ensembl:ENSMUSG00000034645](#)

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 BC022150

Expression Biased expression in liver adult (RPKM 1.6), mammary gland adult (RPKM 1.2) and 12 other tissues [See more](#)

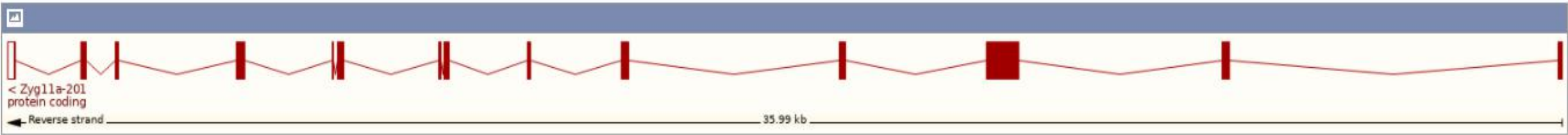
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

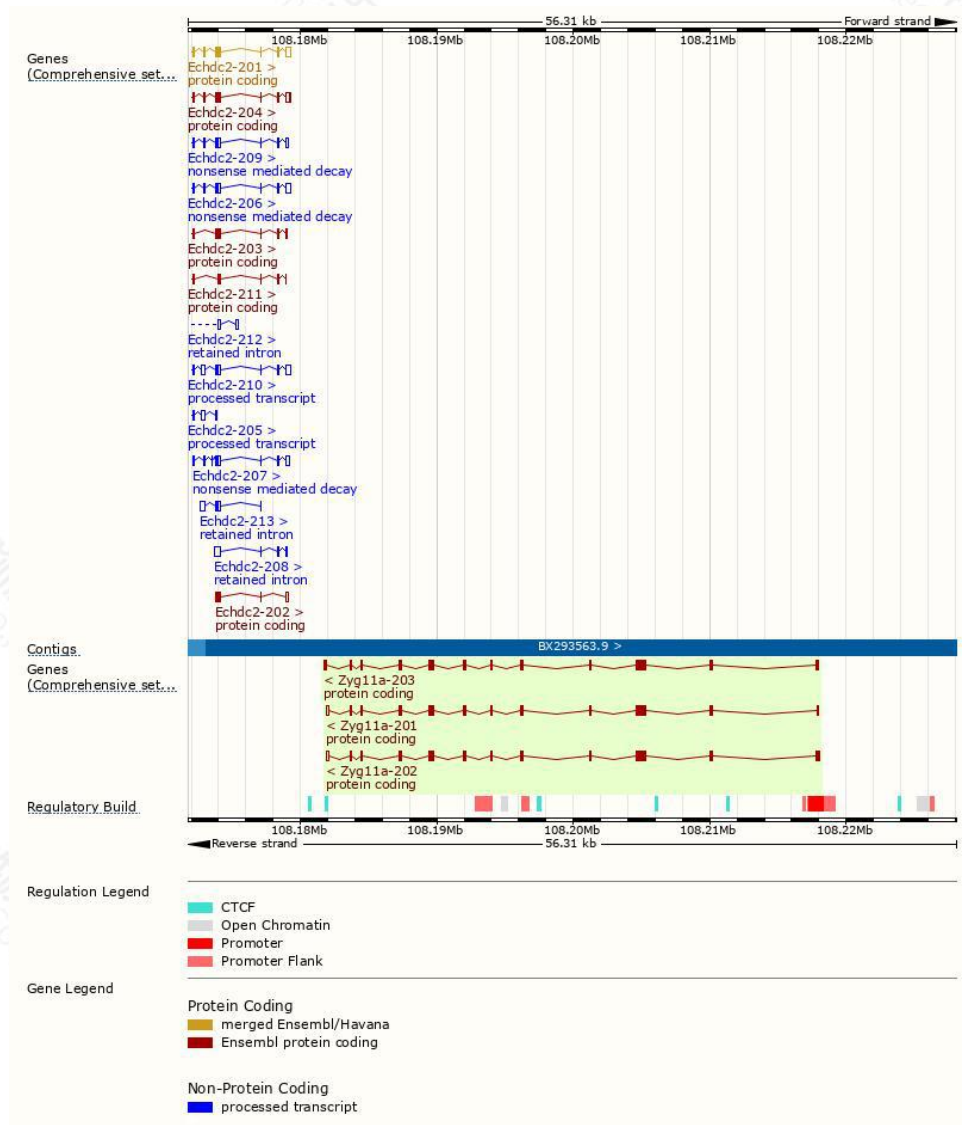
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Zyg11a-201	ENSMUST00000043793.7	2289	706aa	Protein coding	CCDS551256		TSL:5 , GENCODE basic , APPRIS P2 ,
Zyg11a-202	ENSMUST00000106690.9	2421	708aa	Protein coding	-		TSL:5 , GENCODE basic , APPRIS ALT2 ,
Zyg11a-203	ENSMUST00000223127.2	2283	760aa	Protein coding	-		TSL:5 , GENCODE basic , APPRIS ALT2 ,

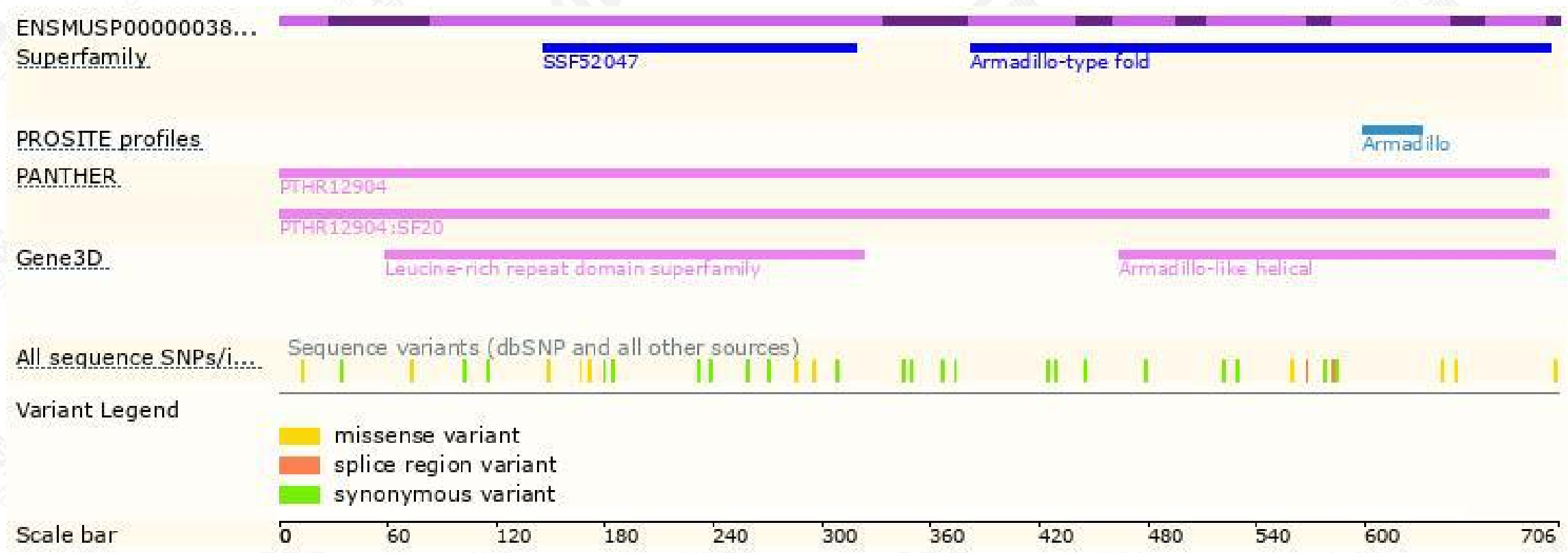
The strategy is based on the design of *Zyg11a-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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