

Armcx1 Cas9-KO Strategy

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Project Overview

Project Name

Armcx1

Project type

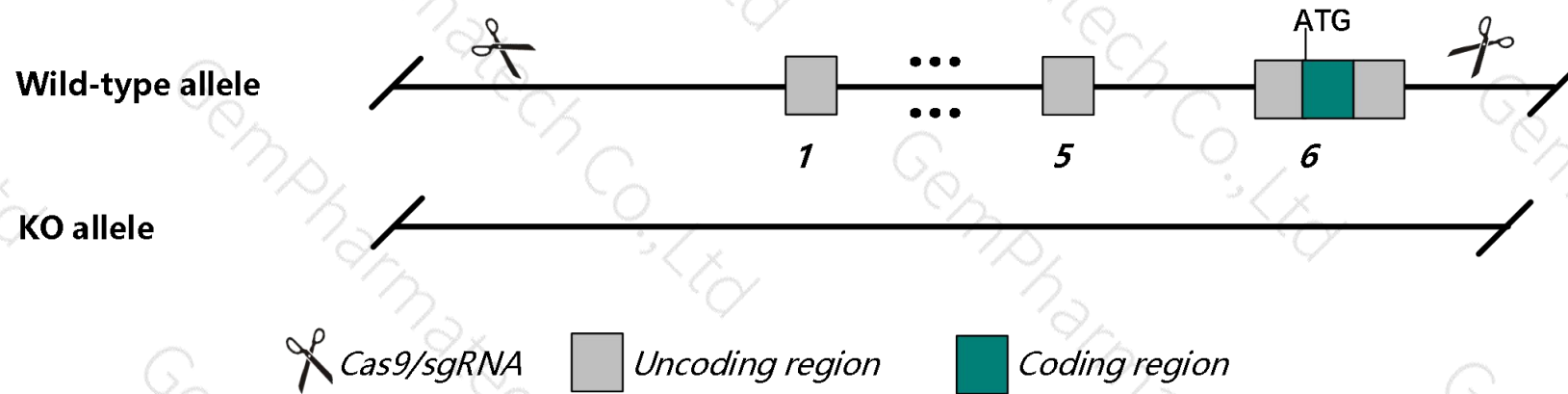
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Armcx1* gene. The schematic diagram is as follows:



- The *Armox1* gene has 10 transcripts. According to the structure of *Armox1* gene, exon1-exon6 of *Armox1*-205 (ENSMUST00000113199.7) 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 *Armox1* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Armcx1* gene is located on the ChrX. 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)

Armxc1 armadillo repeat containing, X-linked 1 [Mus musculus (house mouse)]

Gene ID: 78248, updated on 13-Mar-2020

Summary



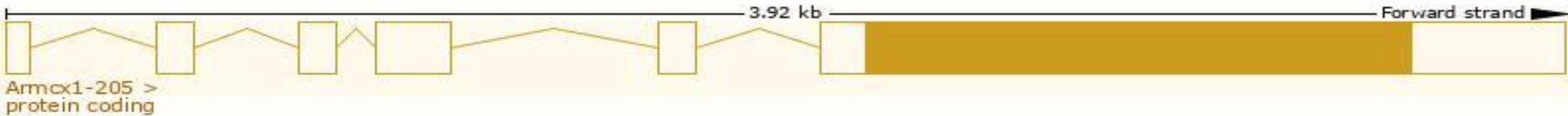
Official Symbol	Armxc1 provided by MGI
Official Full Name	armadillo repeat containing, X-linked 1 provided by MGI
Primary source	MGI:MGI:1925498
See related	Ensembl:ENSMUSG00000033460
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	3010033I09Rik, ALEX1
Expression	Broad expression in CNS E18 (RPKM 17.7), CNS E14 (RPKM 16.8) and 16 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

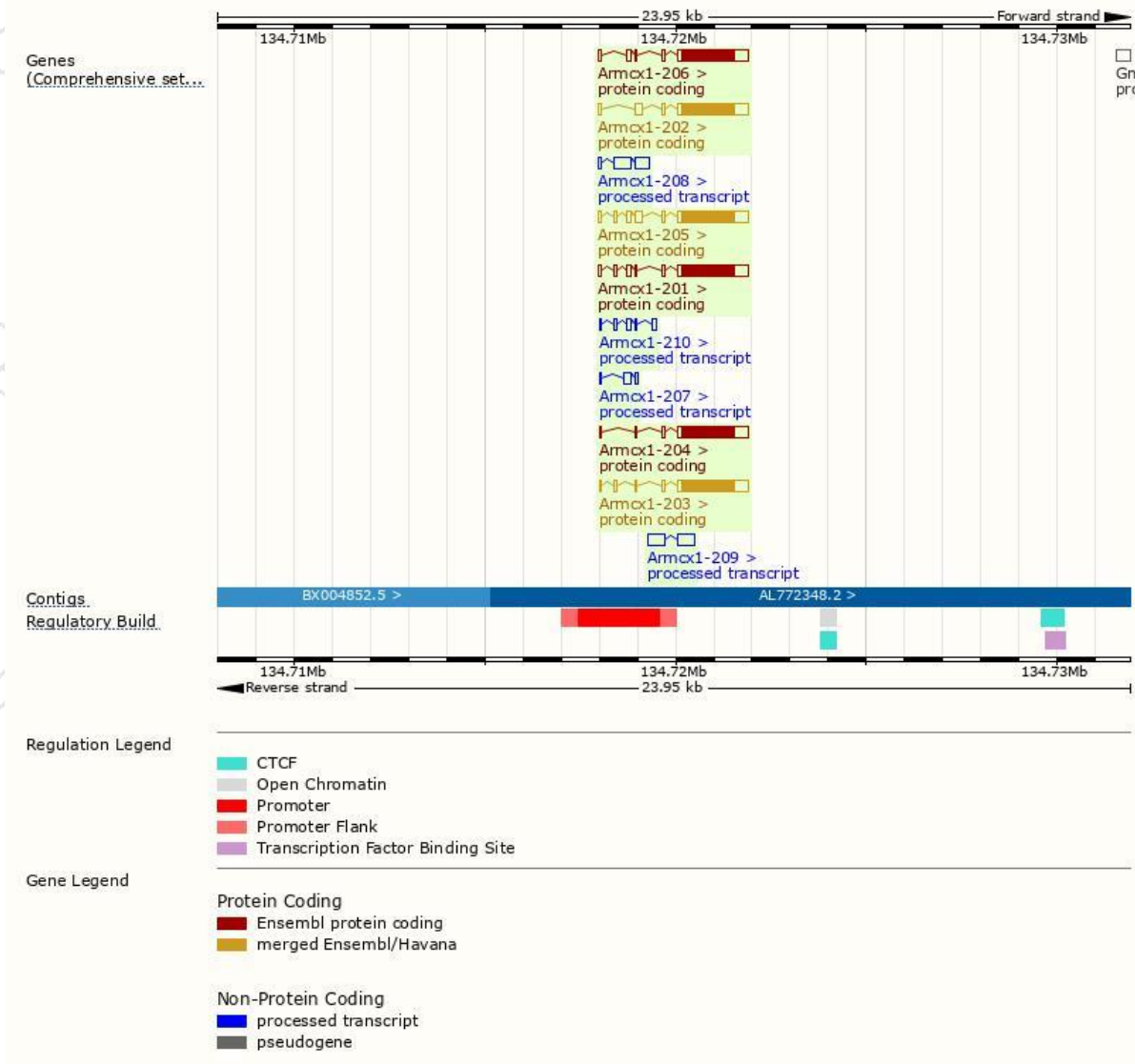
The gene has 10 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Armxc1-205	ENSMUST00000113199.7	2413	456aa	Protein coding	CCDS30398	Q9CX83	TSL:1 GENCODE basic APPRIS P1
Armxc1-201	ENSMUST00000035748.13	2303	456aa	Protein coding	CCDS30398	Q9CX83	TSL:1 GENCODE basic APPRIS P1
Armxc1-202	ENSMUST00000051256.9	2253	456aa	Protein coding	CCDS30398	Q9CX83	TSL:1 GENCODE basic APPRIS P1
Armxc1-206	ENSMUST00000113201.7	2228	456aa	Protein coding	CCDS30398	Q9CX83	TSL:2 GENCODE basic APPRIS P1
Armxc1-203	ENSMUST00000113197.1	2179	456aa	Protein coding	CCDS30398	Q9CX83	TSL:1 GENCODE basic APPRIS P1
Armxc1-204	ENSMUST00000113198.7	2085	456aa	Protein coding	CCDS30398	Q9CX83	TSL:2 GENCODE basic APPRIS P1
Armxc1-209	ENSMUST00000137173.1	951	No protein	Processed transcript	-	-	TSL:2
Armxc1-208	ENSMUST00000129697.1	906	No protein	Processed transcript	-	-	TSL:5
Armxc1-210	ENSMUST00000138421.7	415	No protein	Processed transcript	-	-	TSL:2
Armxc1-207	ENSMUST00000125684.7	320	No protein	Processed transcript	-	-	TSL:3

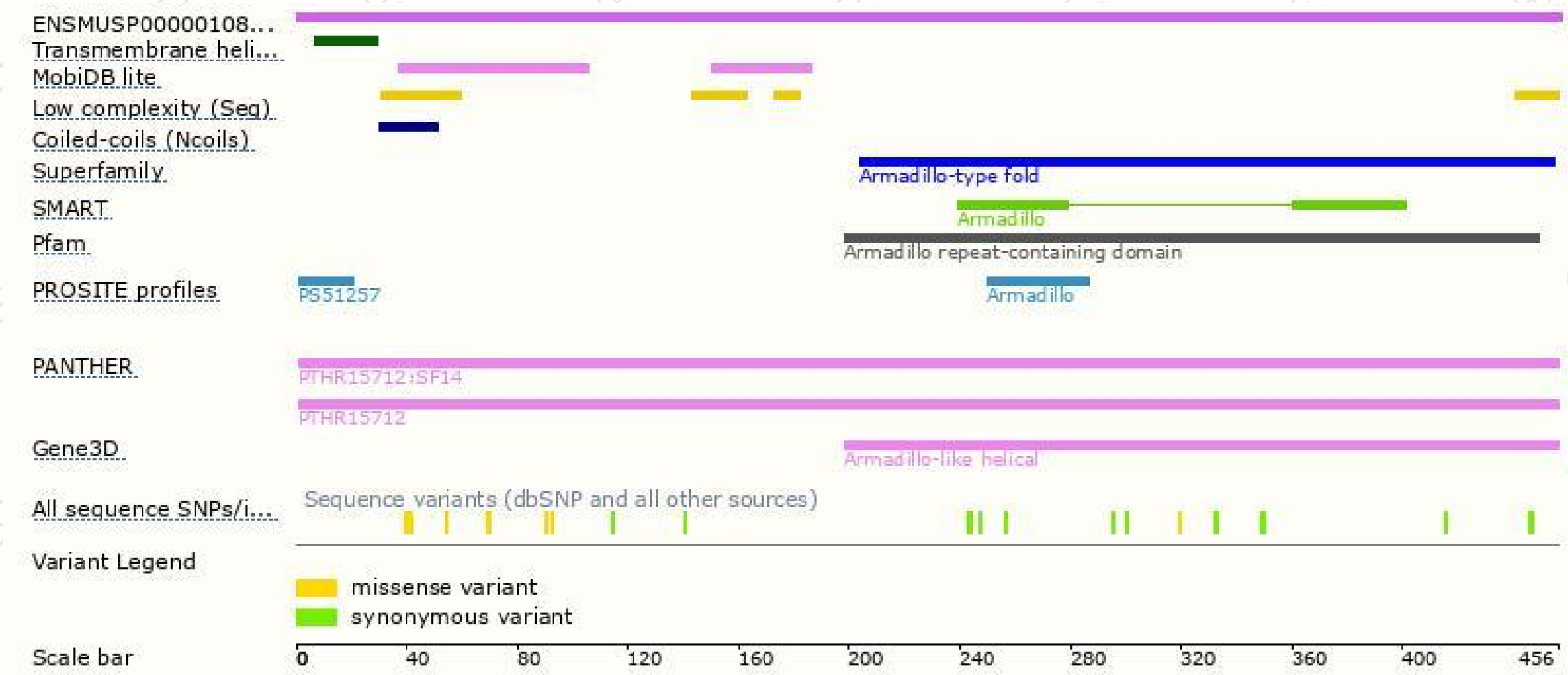
The strategy is based on the design of *Armxc1-205* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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