

Aida Cas9-CKO Strategy

Designer: Shilei Zhu

Project Overview

Project Name

Aida

Project type

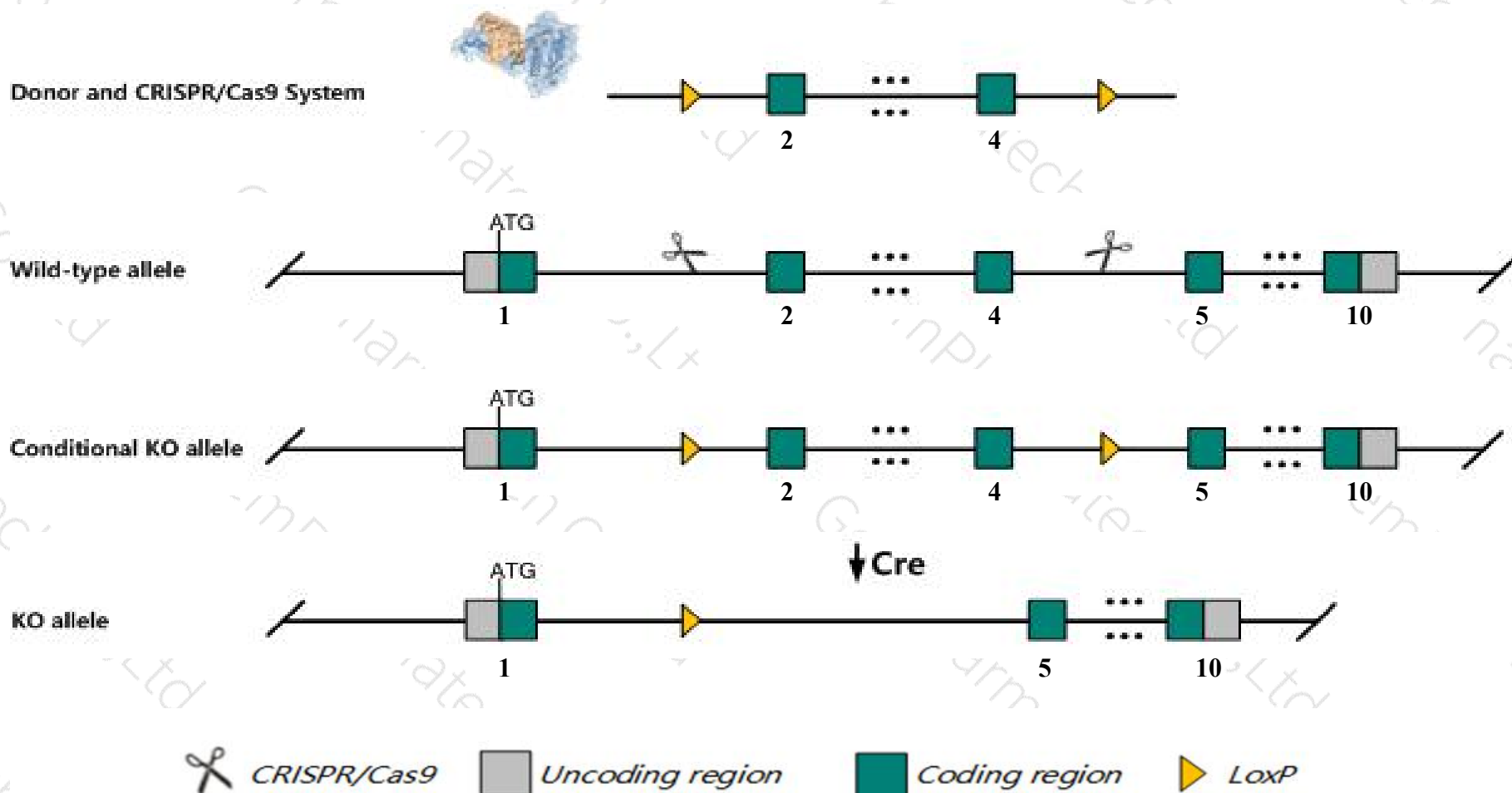
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



Technical routes

- The *Aida* gene has 9 transcripts. According to the structure of *Aida* gene, exon2-exon4 of *Aida-201* (ENSMUST00000109166.7) transcript is recommended as the knockout region. The region contains 179bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Aida* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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 flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Aida* gene is located on the Chr1. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Aida axin interactor, dorsalization associated [Mus musculus (house mouse)]

Gene ID: 108909, updated on 31-Jan-2019

Summary



Official Symbol	Aida provided by MGI
Official Full Name	axin interactor, dorsalization associated provided by MGI
Primary source	MGI:MGI:1919737
See related	Ensembl:ENSMUSG00000042901
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	2610208M17Rik, BC004835
Expression	Ubiquitous expression in CNS E18 (RPKM 15.5), limb E14.5 (RPKM 15.1) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

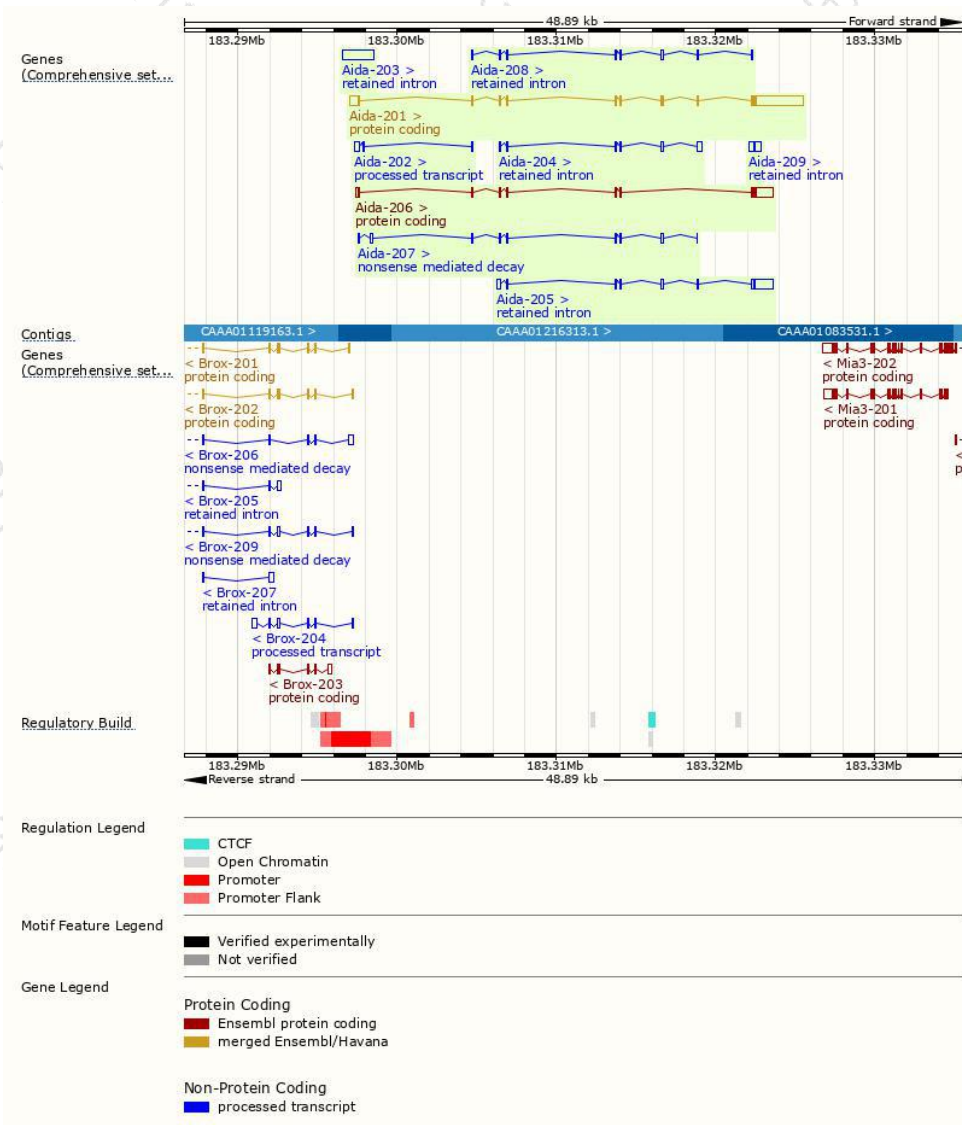
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Aida-201	ENSMUST00000109166.7	4279	305aa	Protein coding	CCDS56663	Q8C4Q6	TSL:1 GENCODE basic APPRIS P1
Aida-206	ENSMUST00000193625.1	1810	223aa	Protein coding	-	Q8C4Q6	TSL:3 GENCODE basic
Aida-207	ENSMUST00000193959.5	724	21aa	Nonsense mediated decay	-	A0A0A6YXT3	CDS 5' incomplete TSL:5
Aida-202	ENSMUST00000191782.1	426	No protein	Processed transcript	-	-	TSL:3
Aida-203	ENSMUST00000192252.1	1932	No protein	Retained intron	-	-	TSL:NA
Aida-205	ENSMUST00000193359.5	1894	No protein	Retained intron	-	-	TSL:1
Aida-204	ENSMUST00000192293.1	710	No protein	Retained intron	-	-	TSL:2
Aida-208	ENSMUST00000194652.5	668	No protein	Retained intron	-	-	TSL:3
Aida-209	ENSMUST00000195268.1	626	No protein	Retained intron	-	-	TSL:2

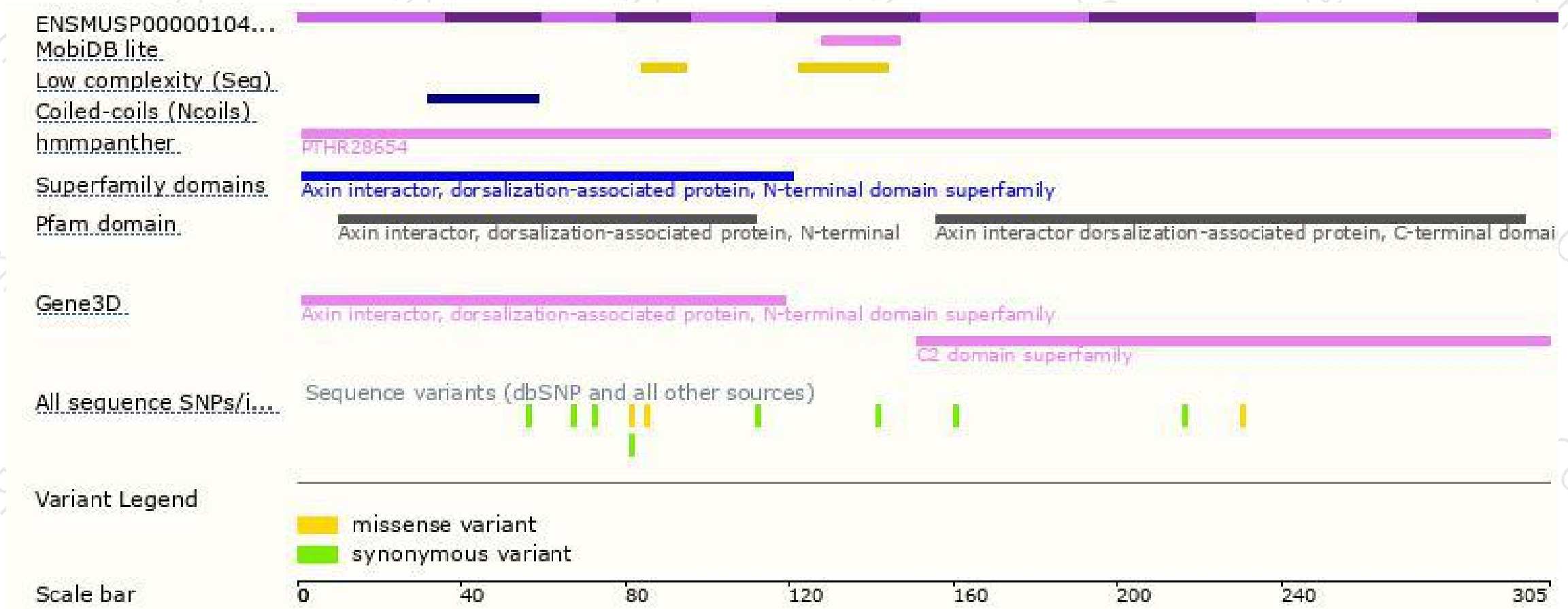
The strategy is based on the design of *Aida-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

