

Eya2 Cas9-KO Strategy

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Project Overview



Project Name

Eya2

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Eya2* gene. The schematic diagram is as follows:



- The *Eya2* gene has 6 transcripts. According to the structure of *Eya2* gene, exon3 of *Eya2-201* (ENSMUST00000063433.7) transcript is recommended as the knockout region. The region contains 46bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Eya2* gene. The brief process is as follows: CRISPR/Cas9 system v

Notice

- The *Eya2* gene is located on the Chr2. 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)

Eya2 EYA transcriptional coactivator and phosphatase 2 [Mus musculus (house mouse)]

Gene ID: 14049, updated on 19-Feb-2019

Summary



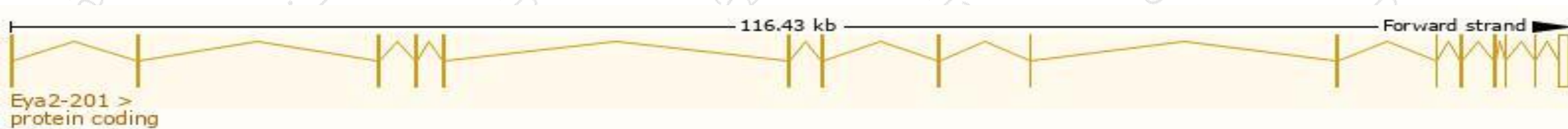
Official Symbol	Eya2 provided by MGI
Official Full Name	EYA transcriptional coactivator and phosphatase 2 provided by MGI
Primary source	MGI:MGI:109341
See related	Ensembl:ENSMUSG00000017897
Gene type	protein coding
RefSeq status	REVIEWED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Eab1
Summary	This gene encodes a member of the eyes absent protein family. The encoded protein is a tyrosine phosphatase which acts as a transcriptional activator during development. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Dec 2012]
Expression	Broad expression in ovary adult (RPKM 28.8), lung adult (RPKM 23.2) and 18 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

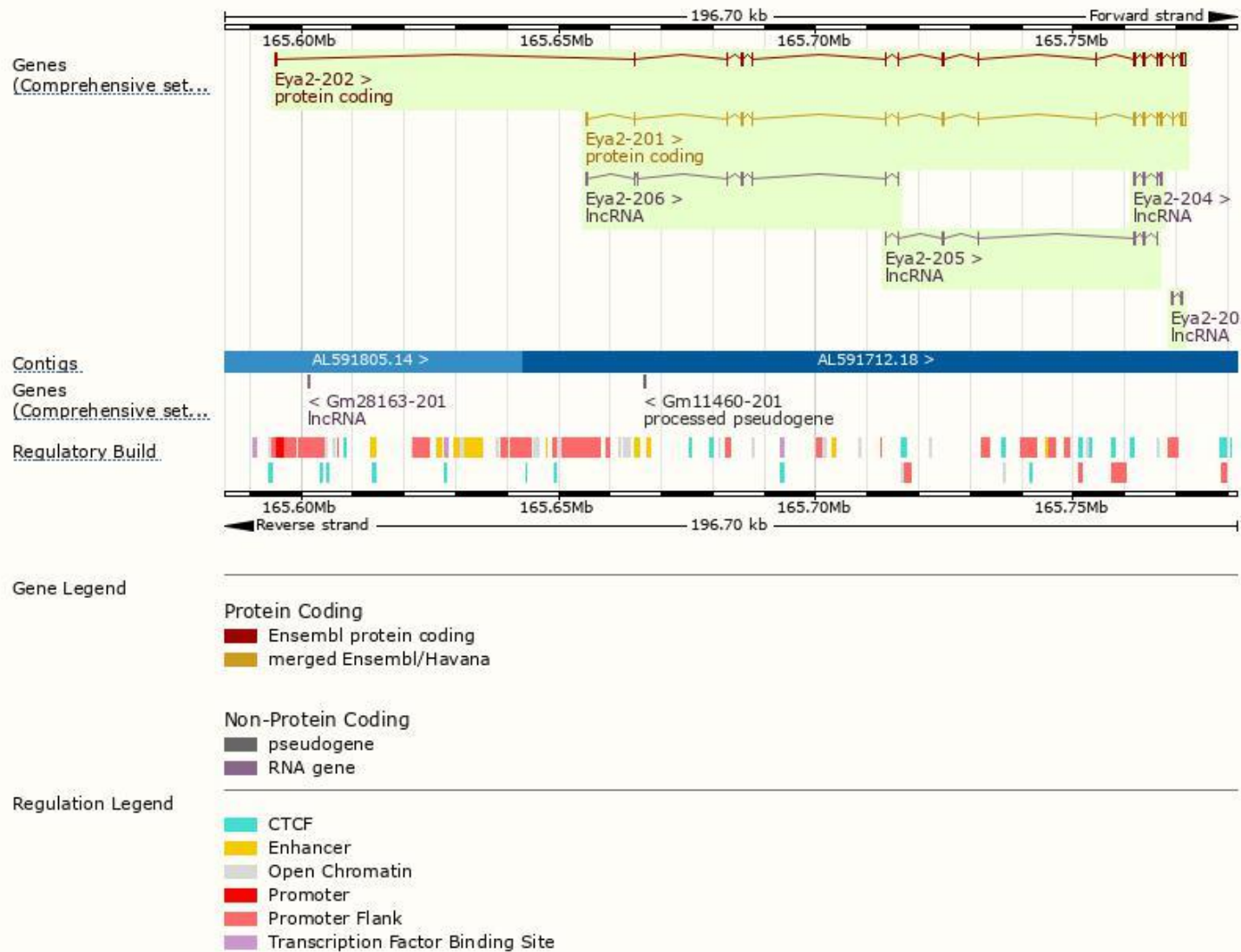
The gene has 6 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Eya2-201	ENSMUST00000063433.7	2460	532aa	Protein coding	CCDS17084	O08575	TSL:1 GENCODE basic APPRIS P1
Eya2-202	ENSMUST00000088132.12	2447	532aa	Protein coding	CCDS17084	O08575	TSL:1 GENCODE basic APPRIS P1
Eya2-206	ENSMUST00000150669.1	959	No protein	lncRNA	-	-	TSL:5
Eya2-205	ENSMUST00000150638.7	679	No protein	lncRNA	-	-	TSL:5
Eya2-204	ENSMUST00000128696.1	508	No protein	lncRNA	-	-	TSL:5
Eya2-203	ENSMUST00000128280.1	369	No protein	lncRNA	-	-	TSL:2

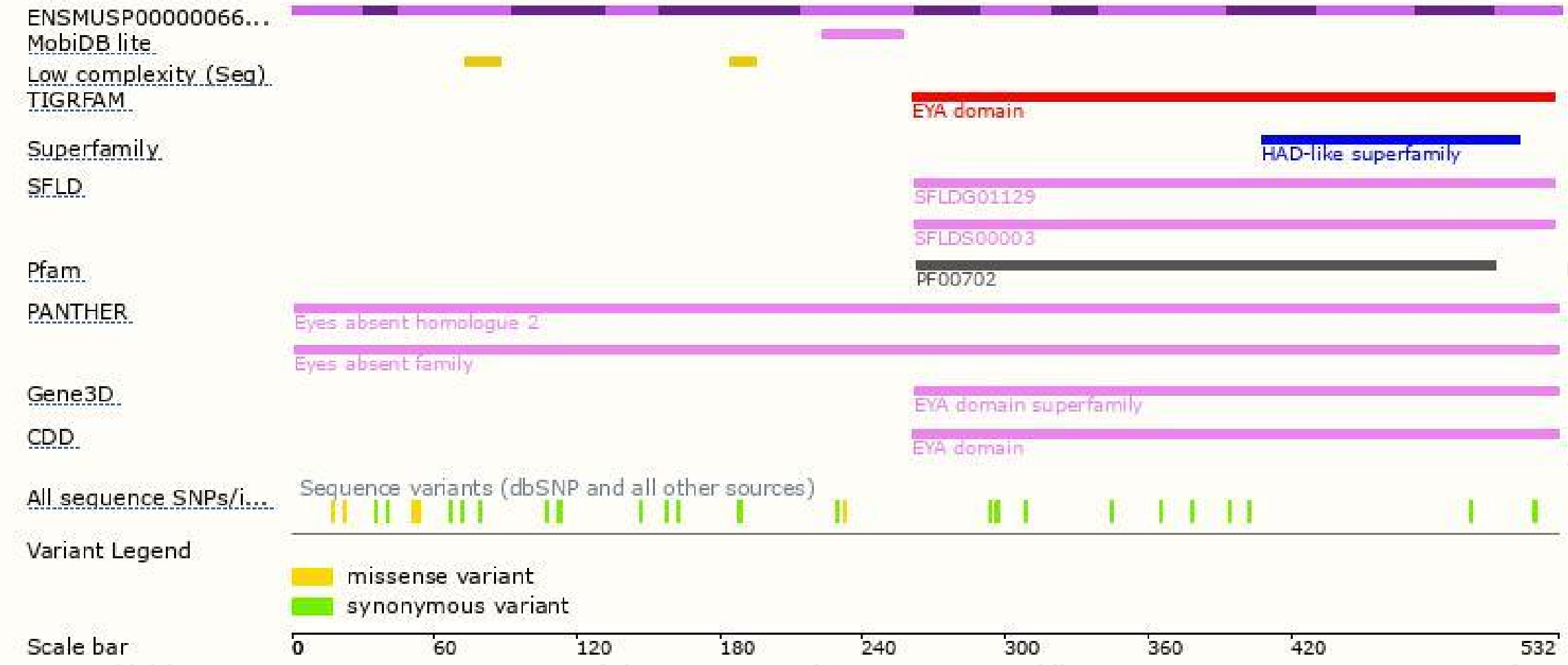
The strategy is based on the design of *Eya2-201* transcript, The transcription is shown below



Genomic location distribution



Protein domain



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

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