

***Emb* Cas9-KO Strategy**

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Project Overview

Project Name

Emb

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Emb* gene has 6 transcripts. According to the structure of *Emb* gene, exon2-exon5 of *Emb-201* (ENSMUST00000022242.8) transcript is recommended as the knockout region. The region contains 497bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Emb* gene. The brief process is as follows: CRISPR/Cas9 system w

- The *Emb* gene is located on the Chr13. 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)

Emb embigin [Mus musculus (house mouse)]

Gene ID: 13723, updated on 31-Jan-2019

Summary



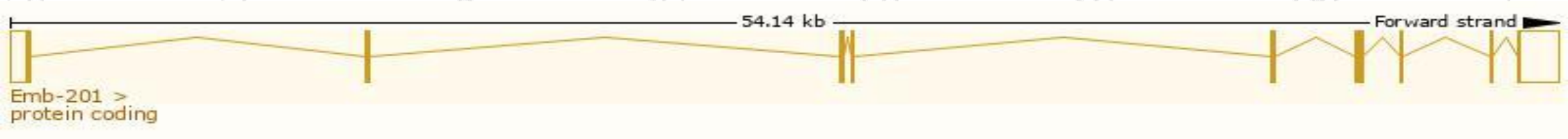
Official Symbol	Emb provided by MGI
Official Full Name	embigin provided by MGI
Primary source	MGI:MGI:95321
See related	Ensembl:ENSMUSG000000021728
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AL022799, Gp70
Expression	Broad expression in ovary adult (RPKM 29.7), genital fat pad adult (RPKM 29.2) and 23 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

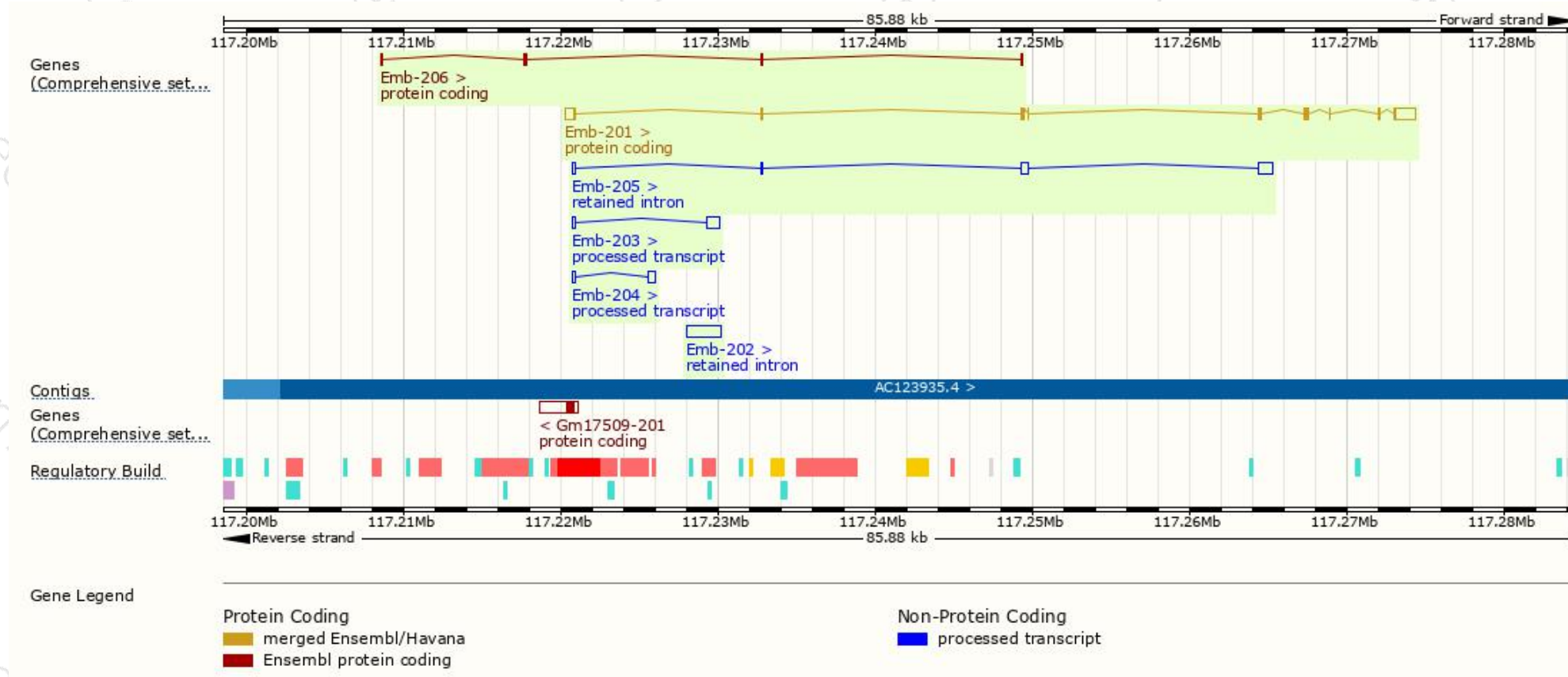
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Emb-201	ENSMUST00000022242.8	2923	330aa	Protein coding	CCDS26791	P21995	TSL:1 GENCODE basic APPRIS P1
Emb-206	ENSMUST000000225981.1	454	101aa	Protein coding	-	A0A286YE53	CDS 3' incomplete
Emb-203	ENSMUST000000224821.1	996	No protein	Processed transcript	-	-	
Emb-204	ENSMUST000000225460.1	753	No protein	Processed transcript	-	-	
Emb-202	ENSMUST000000224455.1	2136	No protein	Retained intron	-	-	
Emb-205	ENSMUST000000225648.1	1754	No protein	Retained intron	-	-	

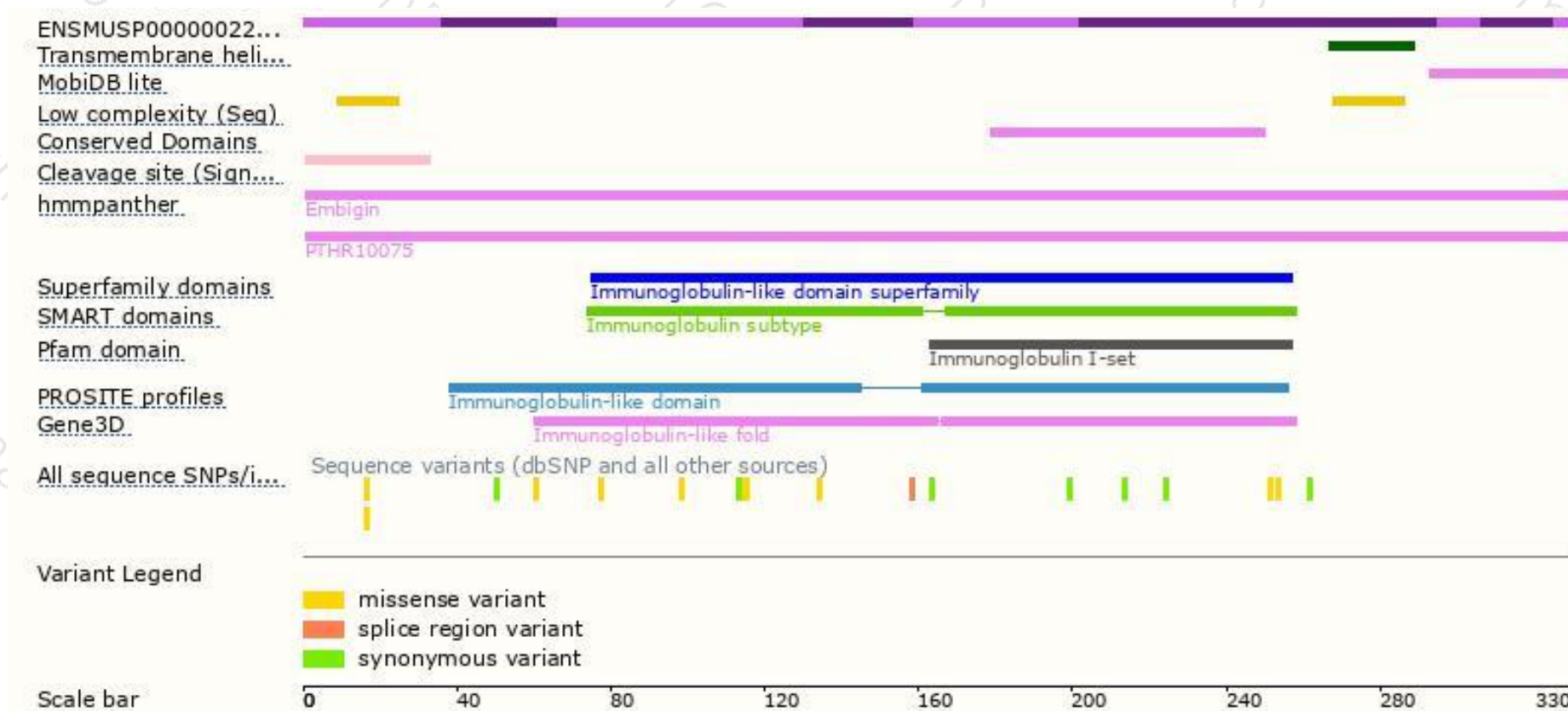
The strategy is based on the design of *Emb-201* transcript,The transcription is shown below



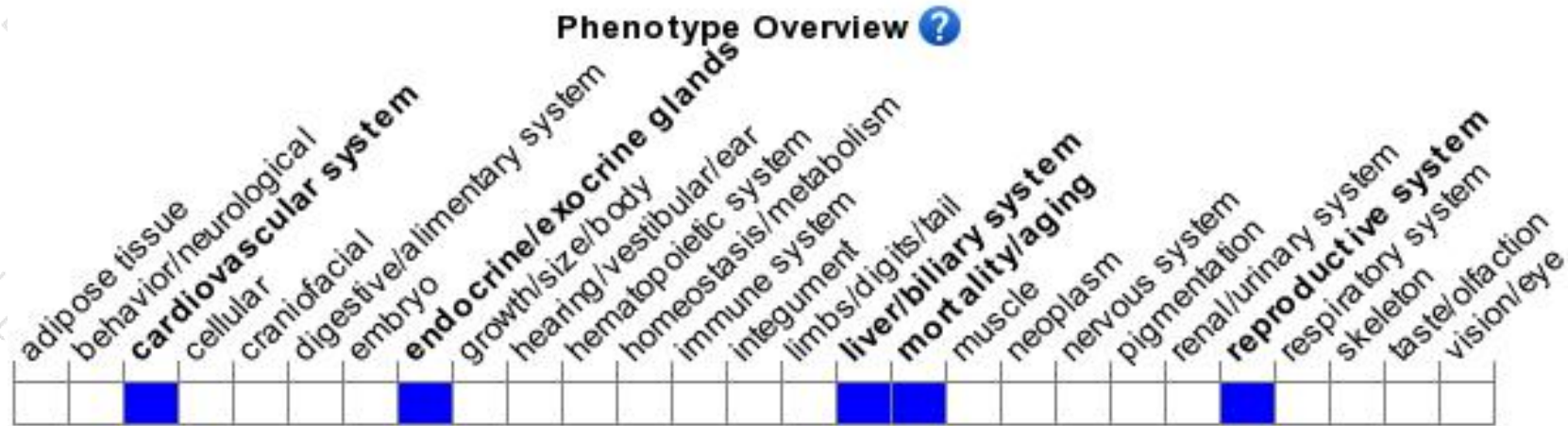
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

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

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