

Ckap5 Cas9-KO Strategy

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Project Overview

Project Name

Ckap5

Project type

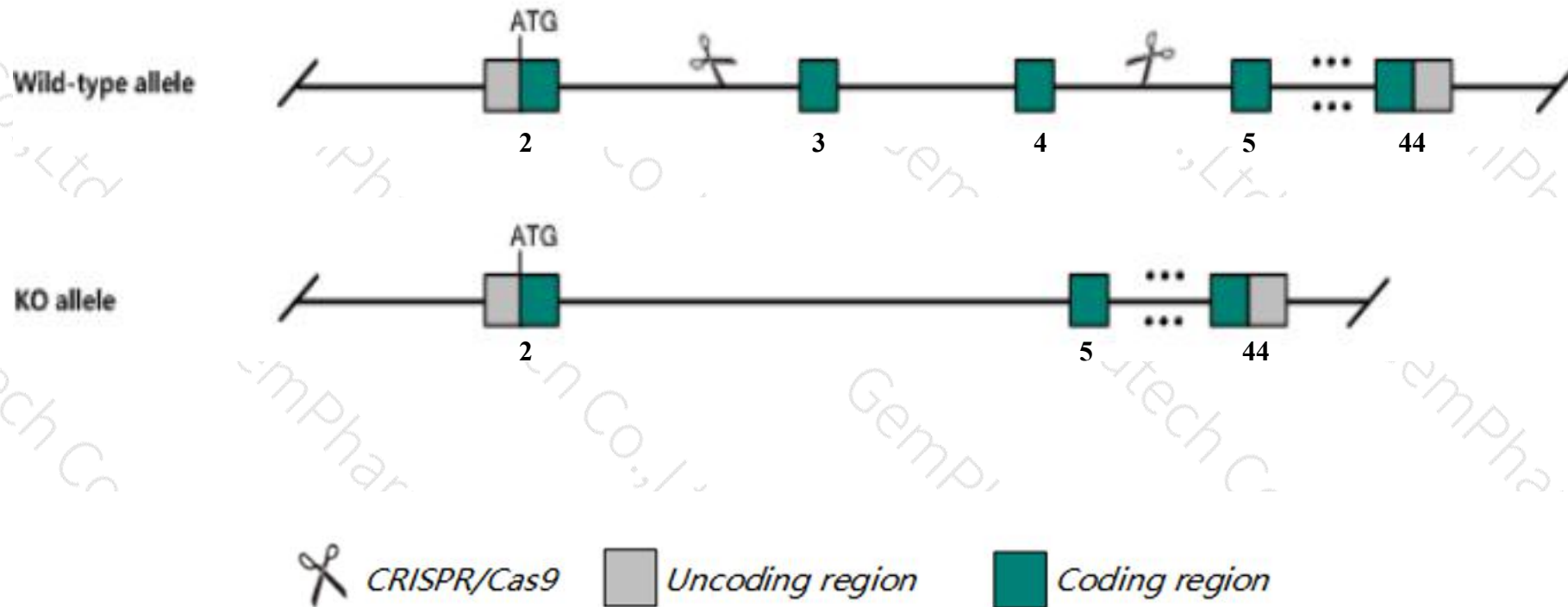
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ckap5* gene. The schematic diagram is as follows:



- The *Ckap5* gene has 9 transcripts. According to the structure of *Ckap5* gene, exon3-exon4 of *Ckap5*-204 (ENSMUST00000111338.9) transcript is recommended as the knockout region. The region contains 401bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ckap5* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a transgenic gene disruption exhibit decreased body size and cleft palate.
- The *Ckap5* 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)

Ckap5 cytoskeleton associated protein 5 [Mus musculus (house mouse)]

Gene ID: 75786, updated on 31-Jan-2019

Summary



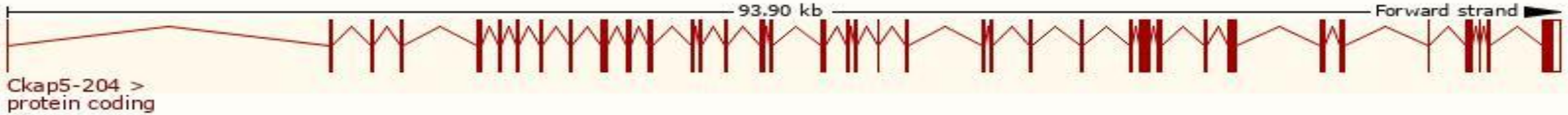
Official Symbol	Ckap5 provided by MGI
Official Full Name	cytoskeleton associated protein 5 provided by MGI
Primary source	MGI:MGI:1923036
See related	Ensembl:ENSMUSG00000040549
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	3110043H24Rik, 4930432B04Rik, D730027C18Rik, T25636, mKIAA0097
Expression	Broad expression in CNS E11.5 (RPKM 33.2), CNS E14 (RPKM 22.3) and 21 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

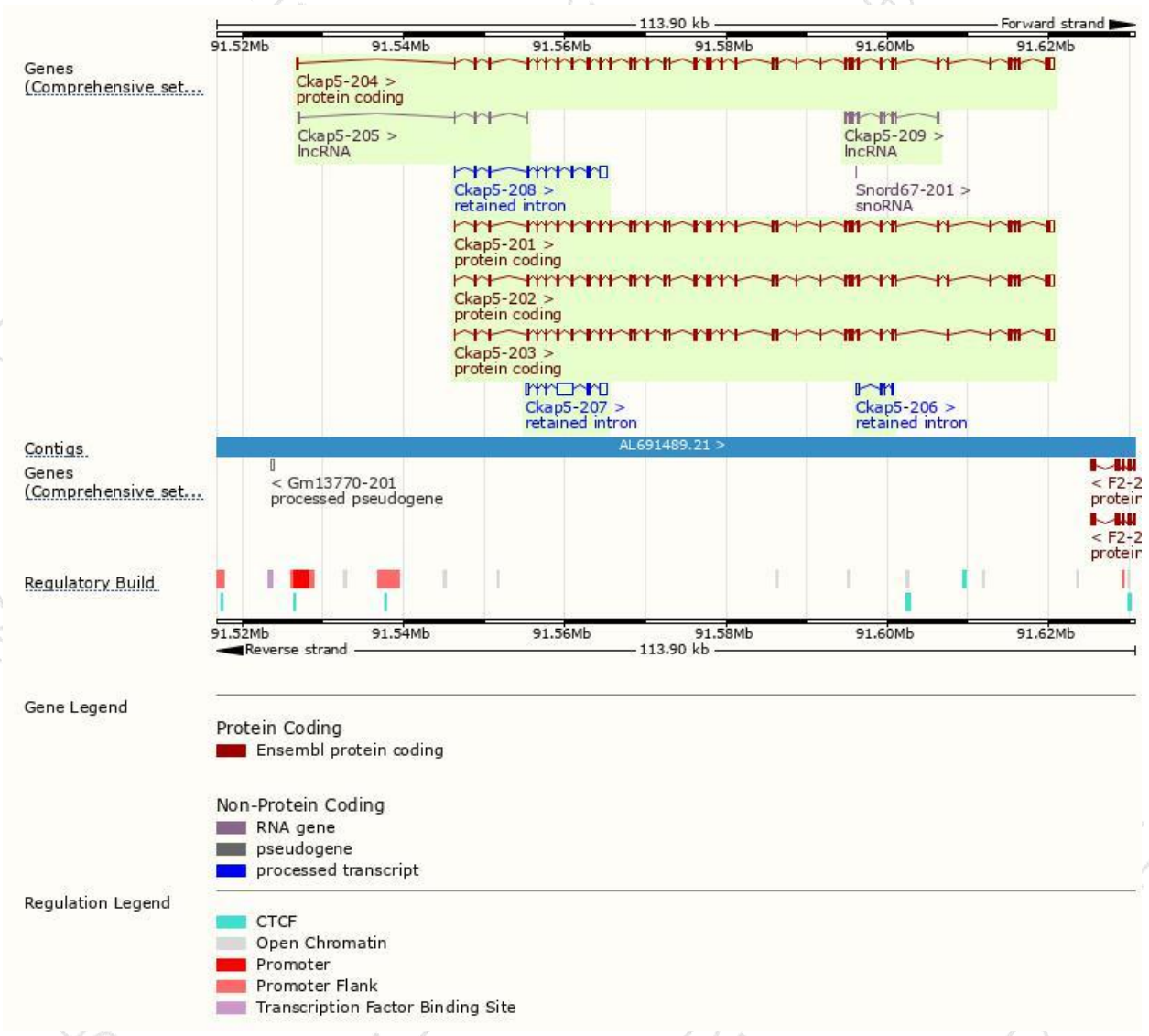
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ckap5-204	ENSMUST00000111338.9	6665	2032aa	Protein coding	CCDS50640	K3W4R5	TSL:1 GENCODE basic APPRIS P1
Ckap5-202	ENSMUST00000099716.10	6574	2032aa	Protein coding	CCDS50640	K3W4R5	TSL:1 GENCODE basic APPRIS P1
Ckap5-201	ENSMUST00000046769.15	6511	2011aa	Protein coding	CCDS16433	A0A0R4J0K2	TSL:1 GENCODE basic
Ckap5-203	ENSMUST00000111337.2	6384	1972aa	Protein coding	-	Z4YL78	TSL:5 GENCODE basic
Ckap5-207	ENSMUST00000133633.1	3403	No protein	Retained intron	-	-	TSL:1
Ckap5-208	ENSMUST00000139433.7	2226	No protein	Retained intron	-	-	TSL:5
Ckap5-206	ENSMUST00000129118.1	718	No protein	Retained intron	-	-	TSL:3
Ckap5-209	ENSMUST00000147809.7	1272	No protein	lncRNA	-	-	TSL:5
Ckap5-205	ENSMUST00000123253.7	696	No protein	lncRNA	-	-	TSL:3

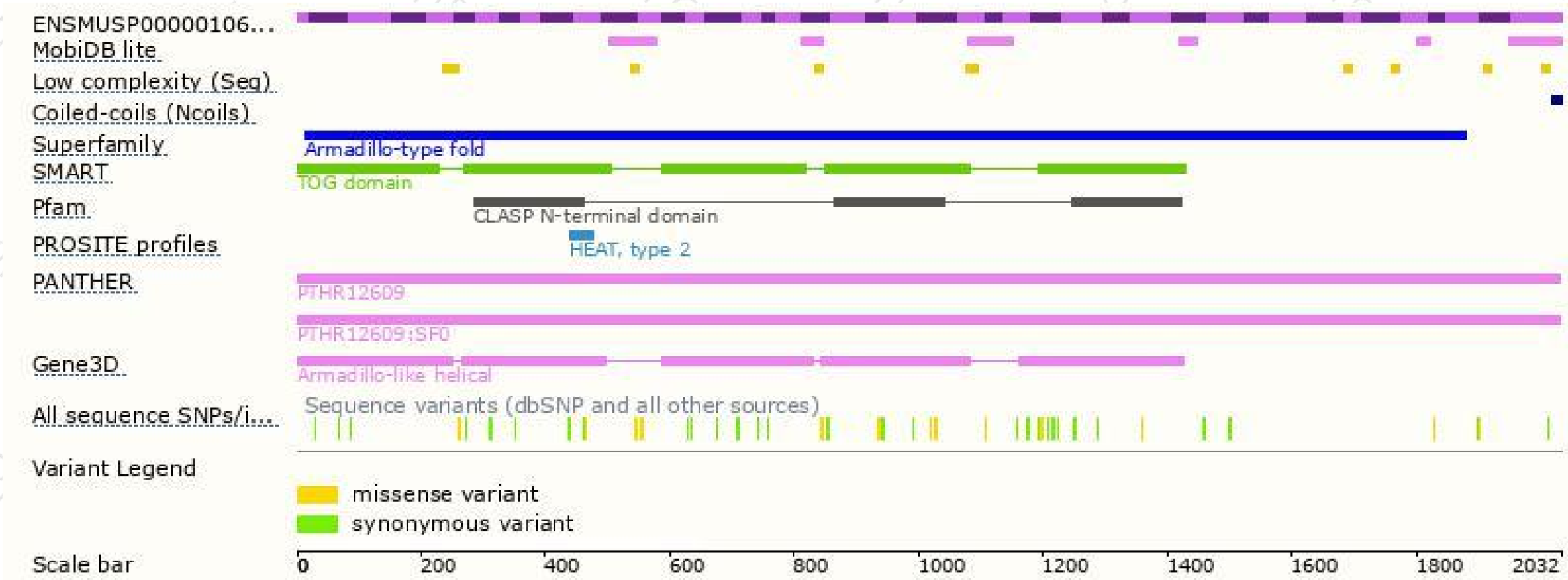
The strategy is based on the design of *Ckap5-204* transcript,The transcription is shown below



Genomic location distribution

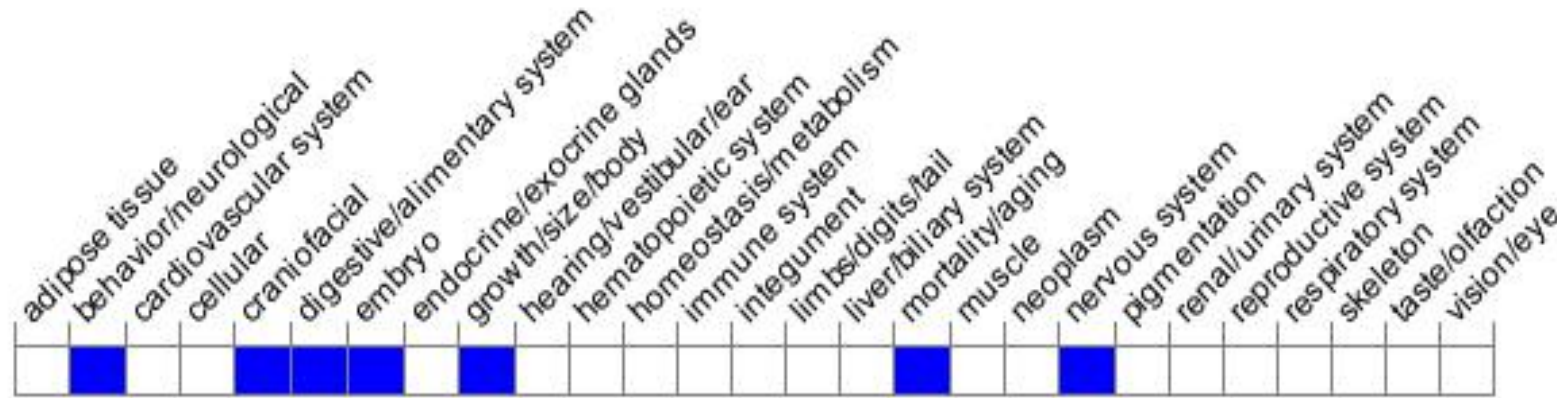


Protein domain



Mouse phenotype description(MGI)

Phenotype Overview



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

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

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