

Nck2 Cas9-KO Strategy

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Project Overview

Project Name

Nck2

Project type

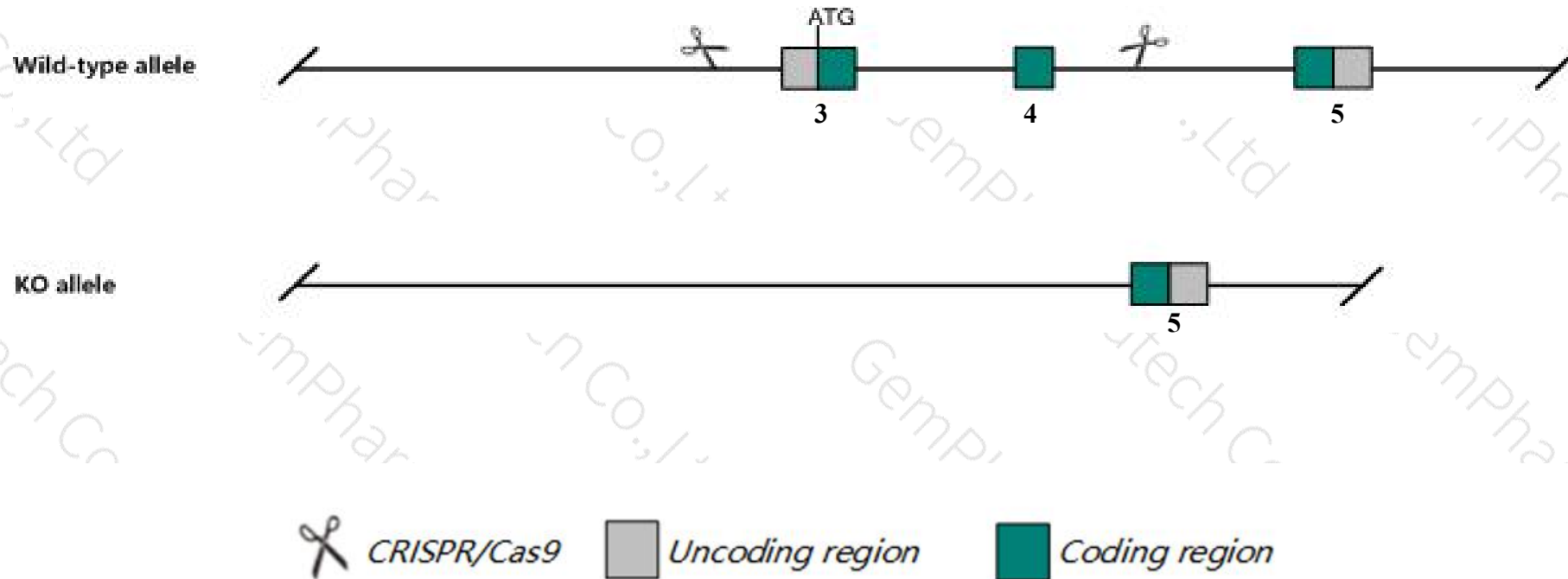
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Nck2* gene. The schematic diagram is as follows:



- The *Nck2* gene has 6 transcripts. According to the structure of *Nck2* gene, exon3-exon4 of *Nck2-201* (ENSMUST00000086421.8) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Nck2* gene. The brief process is as follows: CRISPR/Cas9 system v

- According to the existing MGI data, Mice homozygous for disruption of this gene display no abnormal phenotype.
- The *Nck2* 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 the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Nck2 non-catalytic region of tyrosine kinase adaptor protein 2 [Mus musculus (house mouse)]

Gene ID: 17974, updated on 31-Jan-2019

Summary



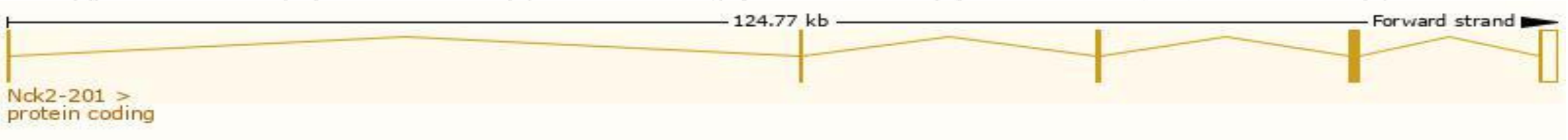
Official Symbol	Nck2 provided by MGI
Official Full Name	non-catalytic region of tyrosine kinase adaptor protein 2 provided by MGI
Primary source	MGI:MGI:1306821
See related	Ensembl:ENSMUSG00000066877
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4833426I10Rik, Grb4, NCKbeta, Nck-2
Expression	Ubiquitous expression in thymus adult (RPKM 33.3), colon adult (RPKM 26.2) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

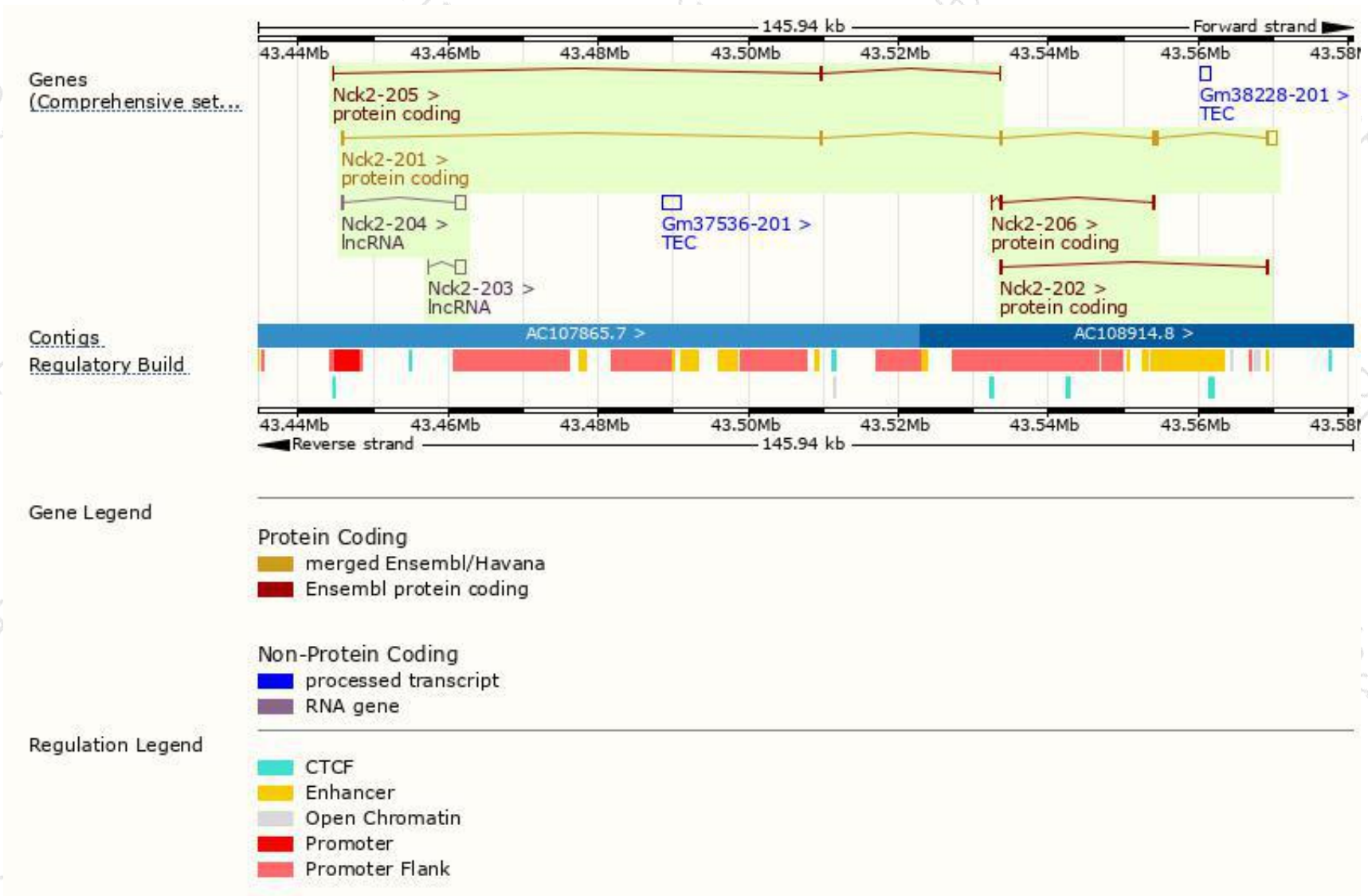
The gene has 6 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Nck2-201	ENSMUST00000086421.8	2772	380aa	Protein coding	CCDS14924	O55033	TSL:1 GENCODE basic APPRIS P1
Nck2-206	ENSMUST00000202540.1	578	142aa	Protein coding	-	A0A0J9YUK4	CDS 3' incomplete TSL:3
Nck2-202	ENSMUST00000114744.2	420	77aa	Protein coding	-	A0A0A0MQF0	CDS 5' incomplete TSL:5
Nck2-205	ENSMUST00000187435.6	372	21aa	Protein coding	-	A0A087WQT7	CDS 3' incomplete TSL:5
Nck2-204	ENSMUST00000136648.7	1515	No protein	lncRNA	-	-	TSL:1
Nck2-203	ENSMUST00000124817.1	1421	No protein	lncRNA	-	-	TSL:1

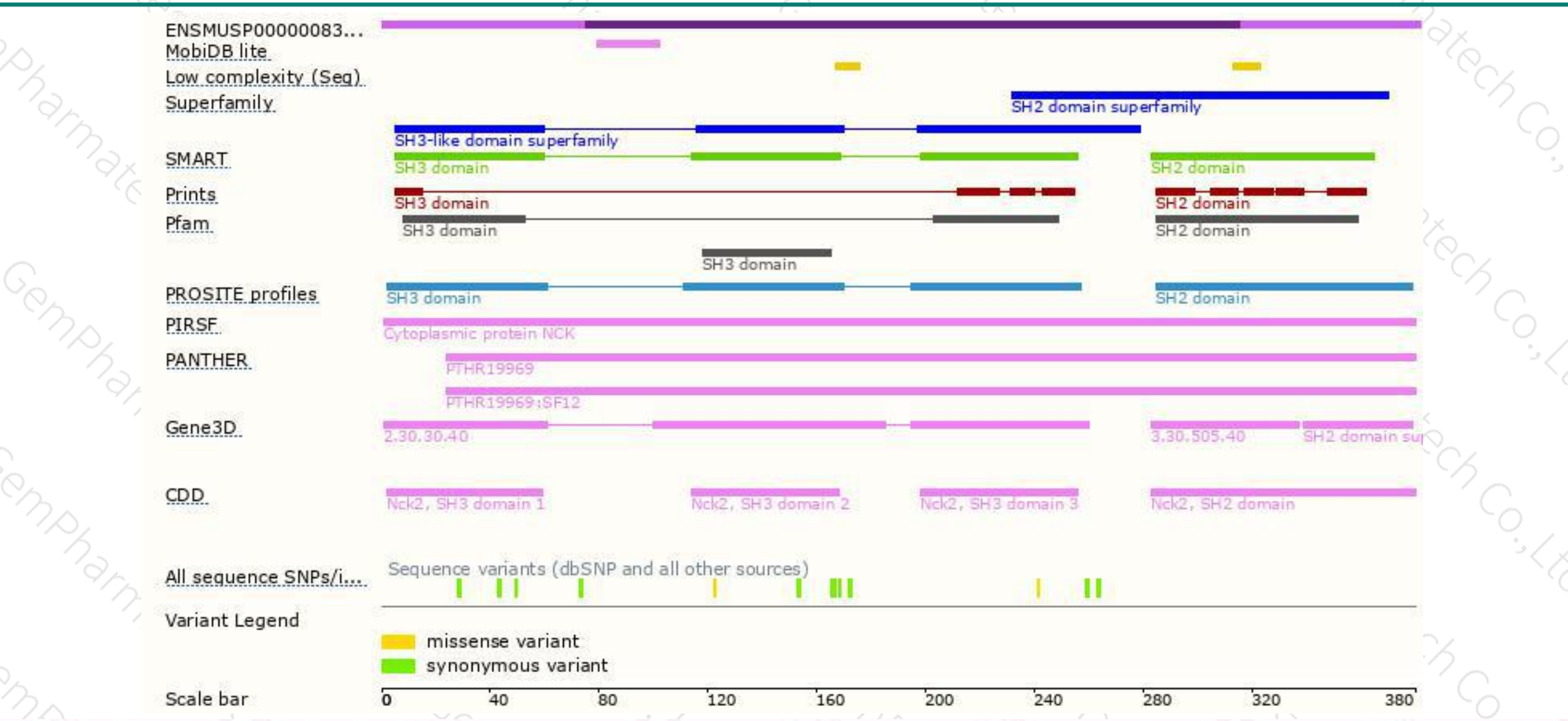
The strategy is based on the design of *Nck2-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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