

Cntn6 Cas9-KO Strategy

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Project Overview

Project Name

Cntn6

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cntn6* gene. The schematic diagram is as follows:



- The *Cntn6* gene has 5 transcripts. According to the structure of *Cntn6* gene, exon5-exon7 of *Cntn6-201* (ENSMUST00000089215.11) transcript is recommended as the knockout region. The region contains 403bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cntn6* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for disruption of this gene display impaired coordination without any obvious morphological or physiological abnormalities in the brain.
- The *Cntn6* gene is located on the Chr6. 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)

Cntn6 contactin 6 [Mus musculus (house mouse)]

Gene ID: 53870, updated on 12-Mar-2019

Summary



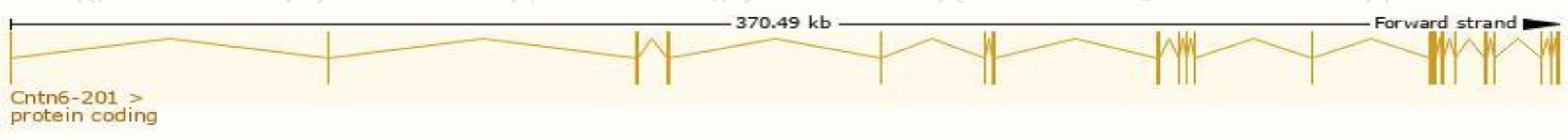
Official Symbol	Cntn6 provided by MGI
Official Full Name	contactin 6 provided by MGI
Primary source	MGI:MGI:1858223
See related	Ensembl:ENSMUSG00000030092
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	NB-3
Expression	Biased expression in cerebellum adult (RPKM 7.8), CNS E18 (RPKM 5.0) and 7 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

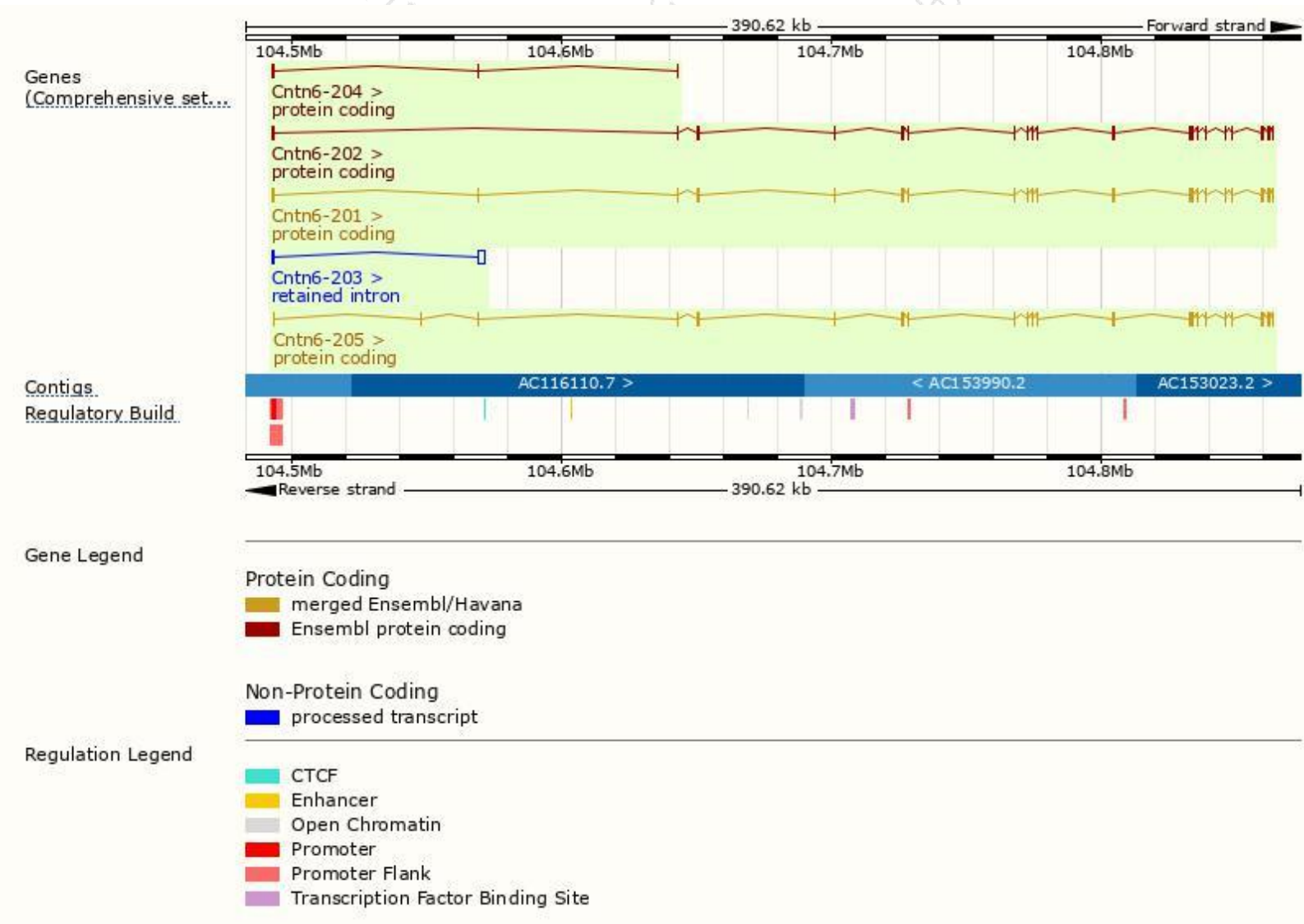
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cntn6-201	ENSMUST00000089215.11	3702	1028aa	Protein coding	CCDS20394	Q9JMB8	TSL:1 GENCODE basic APPRIS P1
Cntn6-205	ENSMUST00000162872.1	3467	1028aa	Protein coding	CCDS20394	Q9JMB8	TSL:1 GENCODE basic APPRIS P1
Cntn6-202	ENSMUST00000161070.7	3515	956aa	Protein coding	-	E0CXE3	TSL:5 GENCODE basic
Cntn6-204	ENSMUST00000161446.1	673	36aa	Protein coding	-	E0CY26	CDS 3' incomplete TSL:5
Cntn6-203	ENSMUST00000161413.1	2928	No protein	Retained intron	-	-	TSL:1

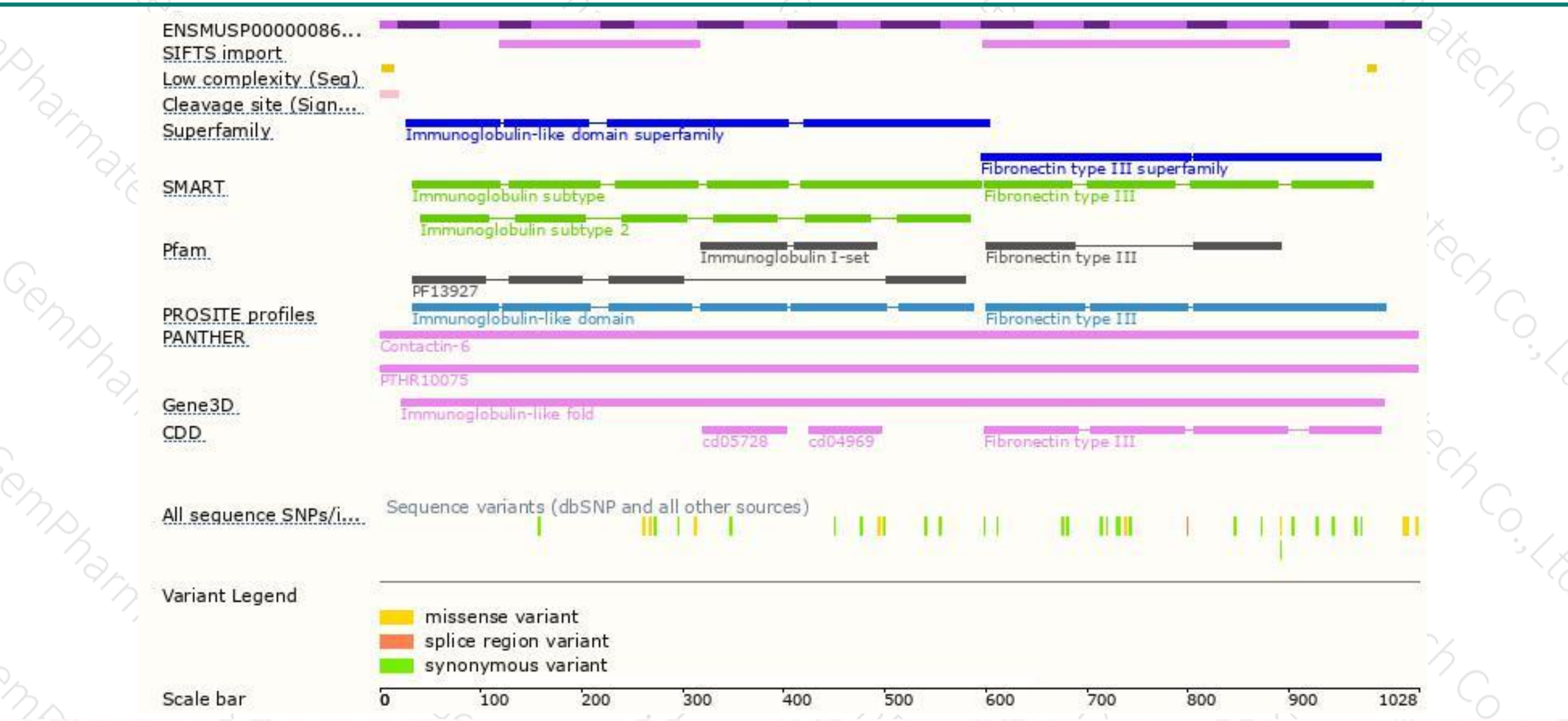
The strategy is based on the design of *Cntn6-201* transcript,The transcription is shown below



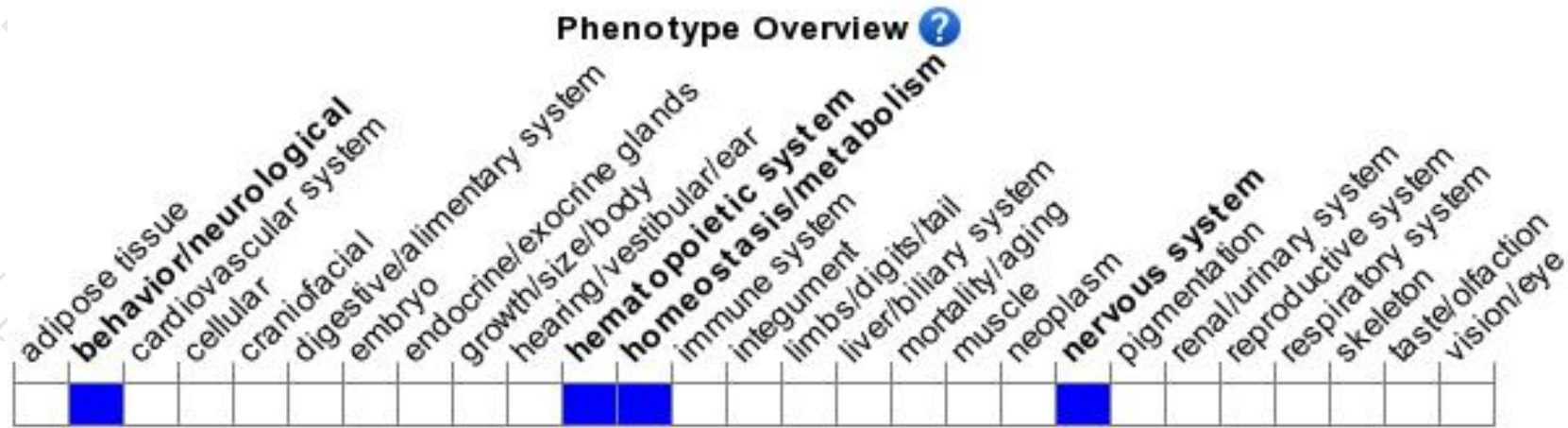
Genomic location distribution



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/>).

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

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