Cblc Cas9-KO Strategy

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Project Overview

Project Name	*Cblc*
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

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

Technical routes

➢ The *Cblc* gene has 7 transcripts. According to the structure of *Cblc* gene, exon2-exon6 of *Cblc-201* (ENSMUST00000043822.7) transcript is recommended as the knockout region.The region contains 652bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Cblc* gene. The brief process is as follows: CRISPR/Cas9 system we

Notice

➢ According to the existing MGI data,Homozygous null mice are viable, fertile, and show no abnormalities of
the epithelium or other tissues.

➢ The *Cblc* gene is located on the Chr7. 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）

Cblc   Casitas B-lineage lymphoma c [*Mus musculus* (house mouse)]
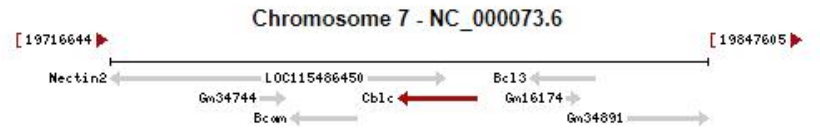
Gene ID: 80794, updated on 31-Dec-2019

Summary

Official Symbol	Cblc provided by MGI
Official Full Name	Casitas B-lineage lymphoma c provided by MGI
Primary source	MGI:MGI:1931457
See related	Ensembl:ENSMUSG00000040525
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	Cbl3; 2310076I21Rik; 2310079L19Rik
Expression	Biased expression in colon adult (RPKM 57.9), duodenum adult (RPKM 51.4) and 10 other tissues See more
Orthologs	human all

Genomic context

Location: 7; 7 A3

Exon count: 12

See Cblc in Genome Data Viewer

| Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	7	NC_000073.6 (19779718..19796809, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	7	NC_000073.5 (20365067..20382158, complement)

Chromosome 7 - NC_000073.6

[19716644 ▶]   [19847605 ▶]

Nectin2   LOC115486450   Bcl3
        Gm34744   Cblc ◀   Gm16174
              Bcan   Gm34891

Transcript information（Ensembl）

The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags		
Cblc-201	ENSMUST00000043822.7	1662	496aa	Protein coding	CCDS39804	Q80XL1	TSL:1	GENCODE basic	APPRIS P1
Cblc-202	ENSMUST00000108449.8	1514	452aa	Protein coding	CCDS52064	G3X9U0	TSL:1	GENCODE basic	
Cblc-204	ENSMUST00000131276.7	746	No protein	Processed transcript	-	-	TSL:5		
Cblc-203	ENSMUST00000125050.1	739	No protein	Processed transcript	-	-	TSL:3		
Cblc-207	ENSMUST00000148416.1	635	No protein	Processed transcript	-	-	TSL:2		
Cblc-205	ENSMUST00000131602.1	1052	No protein	Retained intron	-	-	TSL:1		
Cblc-206	ENSMUST00000145755.1	497	No protein	Retained intron	-	-	TSL:5		

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

< Cblc-201
protein coding
Reverse strand
17.09 kb
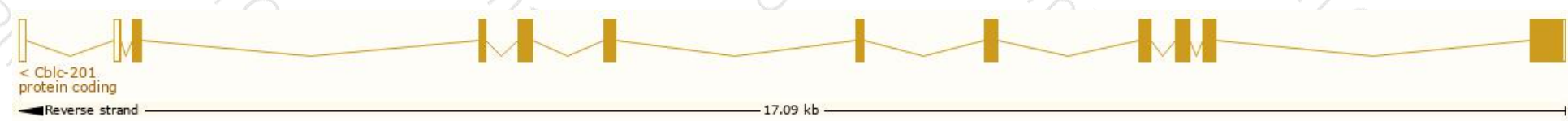
Genomic location distribution
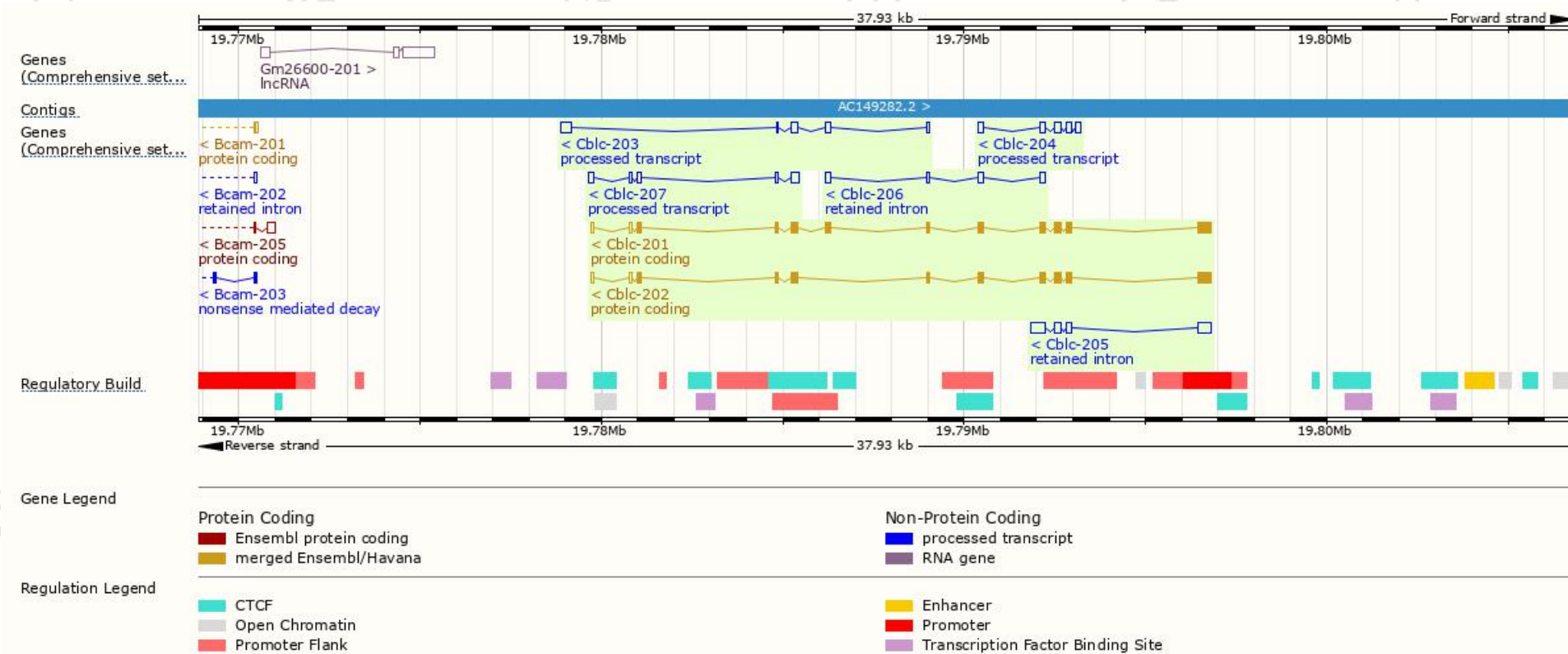
Protein domain

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