Boc Cas9-KO Strategy

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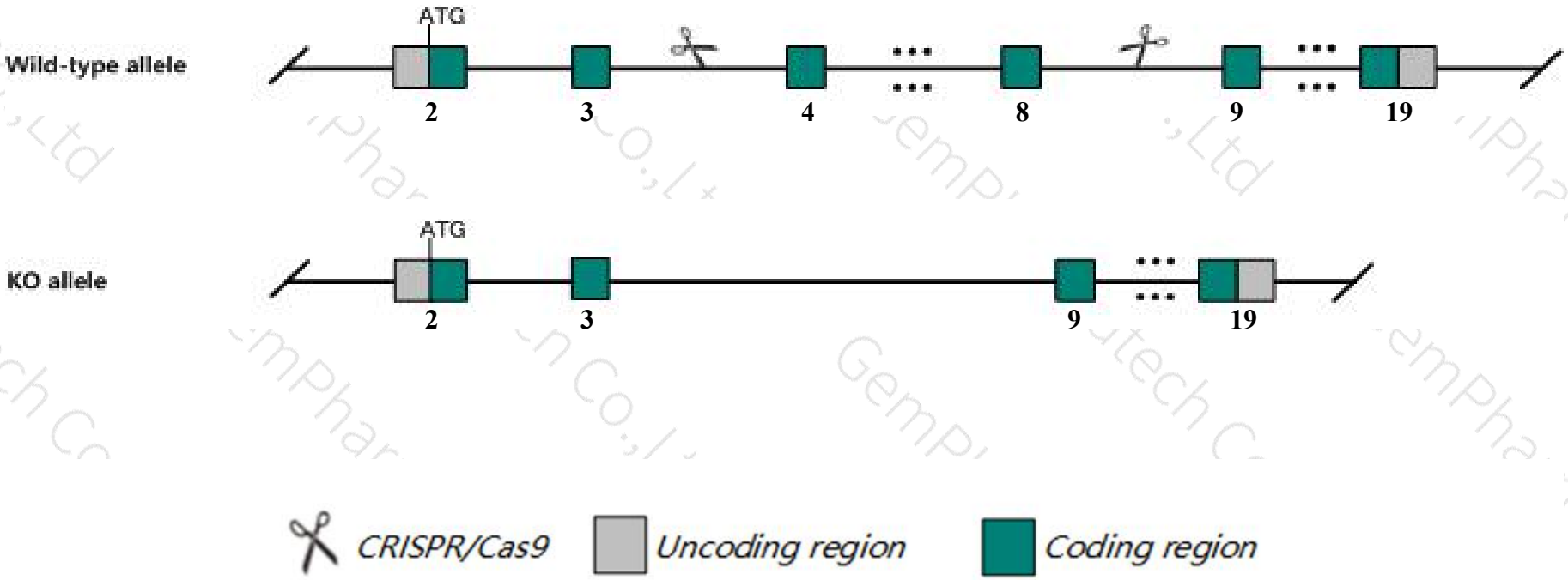
Project Overview

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

Knockout strategy

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



Technical routes

➢ The *Boc* gene has 1 transcript. According to the structure of *Boc* gene, exon4-exon8 of *Boc-201* (ENSMUST00000114634.2) transcript is recommended as the knockout region.The region contains 1166bp coding sequence. Knock out the region will result in disruption of protein function.

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

Notice

- According to the existing MGI data,Mice homozygous for a null mutation display abnormal commissural axon projections.

- The *Boc* gene is located on the Chr16. 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）

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Boc biregional cell adhesion molecule-related/down-regulated by oncogenes (Cdon) binding protein [Mus musculus (house mouse)]

Gene ID: 117606, updated on 2-Apr-2019

Summary

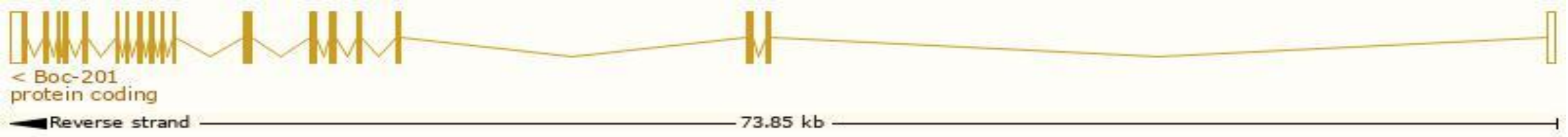
Official Symbol	Boc provided by MGI
Official Full Name	biregional cell adhesion molecule-related/down-regulated by oncogenes (Cdon) binding protein provided byMGI
Primary source	MGI:MGI:2151153
See related	Ensembl:ENSMUSG00000022687
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4732455C11, mFLJ00376
Expression	Broad expression in adrenal adult (RPKM 42.5), limb E14.5 (RPKM 40.8) and 18 other tissuesSee more
Orthologs	human all

Transcript information（Ensembl）

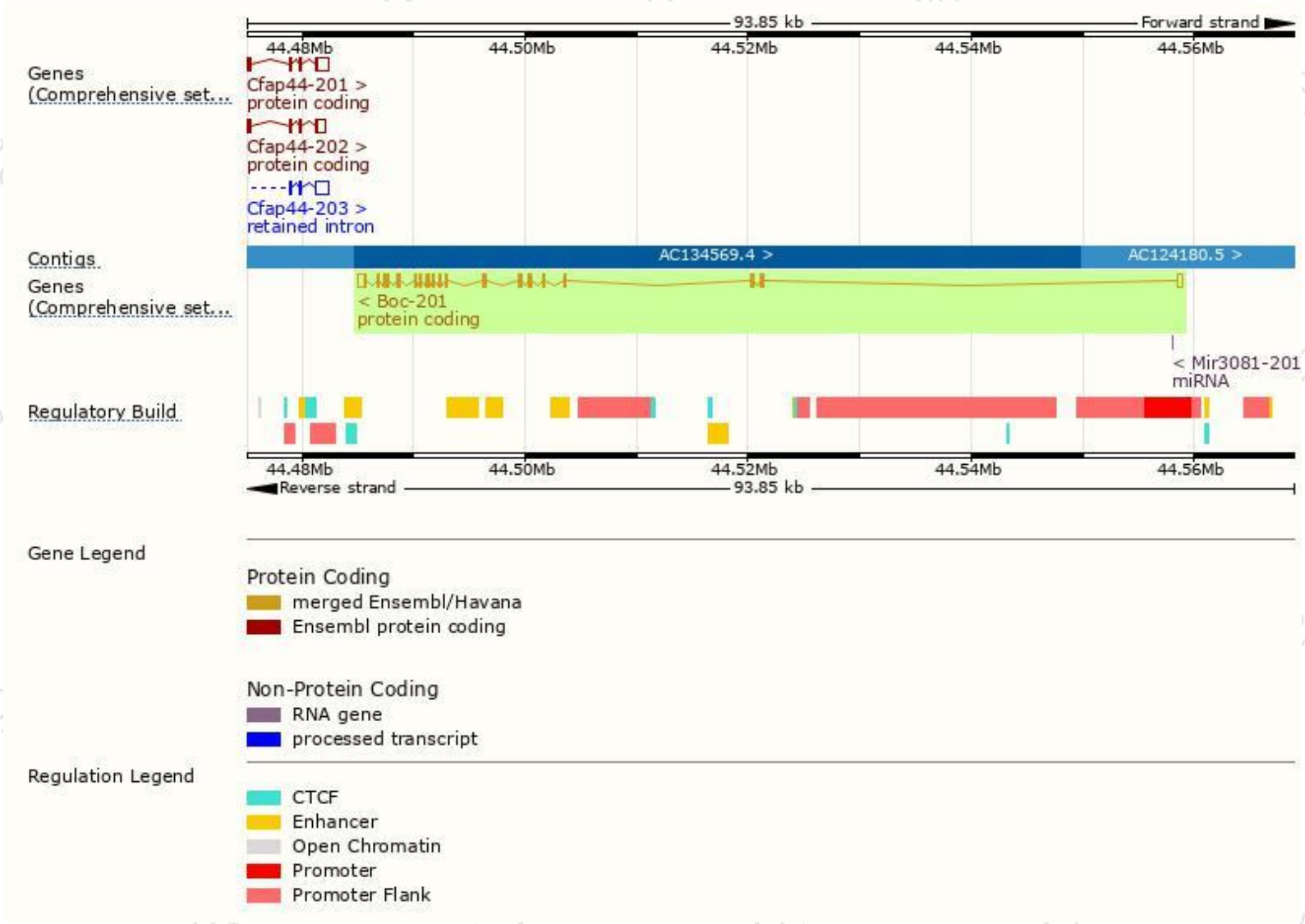
The gene has 1 transcript,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Boc-201	ENSMUST00000114634.2	4451	1110aa	Protein coding	CCDS28186	D3Z763	TSL:1 GENCODE basic APPRIS P1

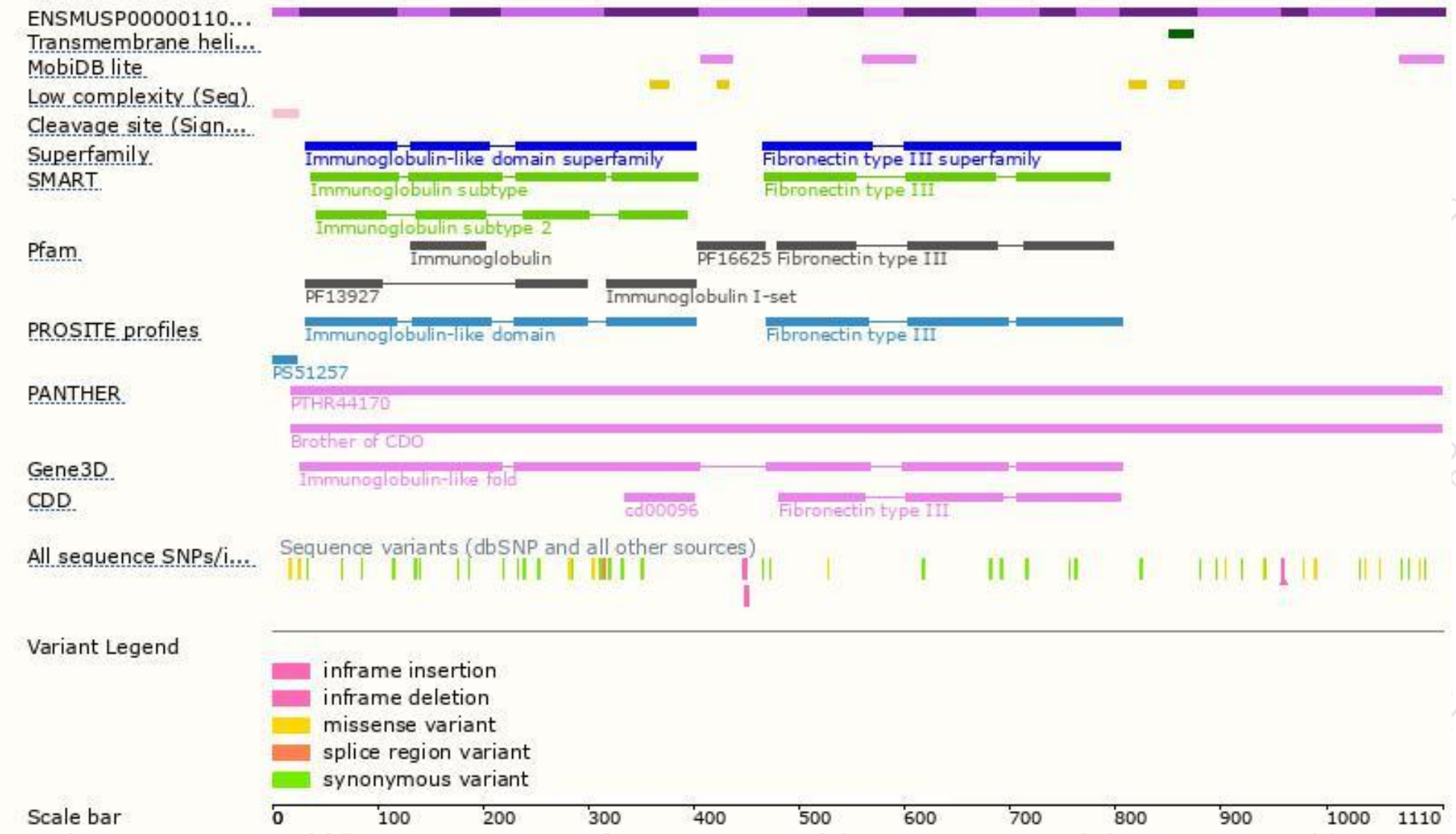
The strategy is based on the design of *Boc-201* transcript,The transcription is shown below



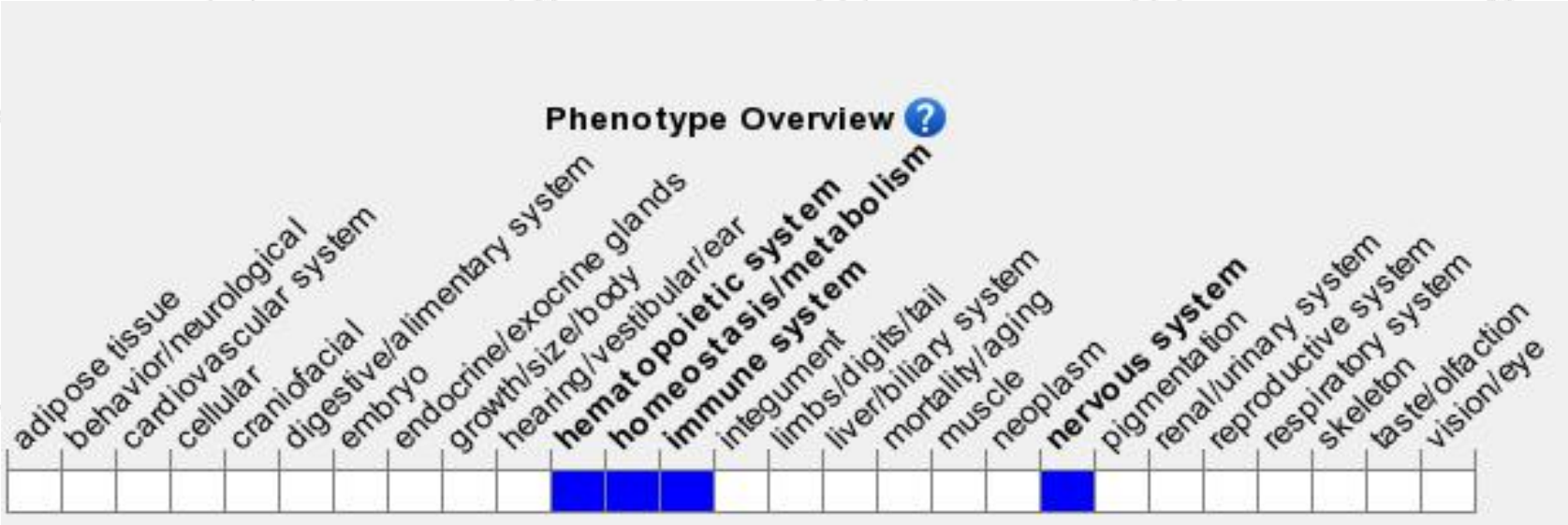
Genomic location distribution



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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