

***Bicra* Cas9-CKO Strategy**

Designer: Yupeng Yang

Reviewer: Wenjing Li

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Project Overview

Project Name

Bicra

Project type

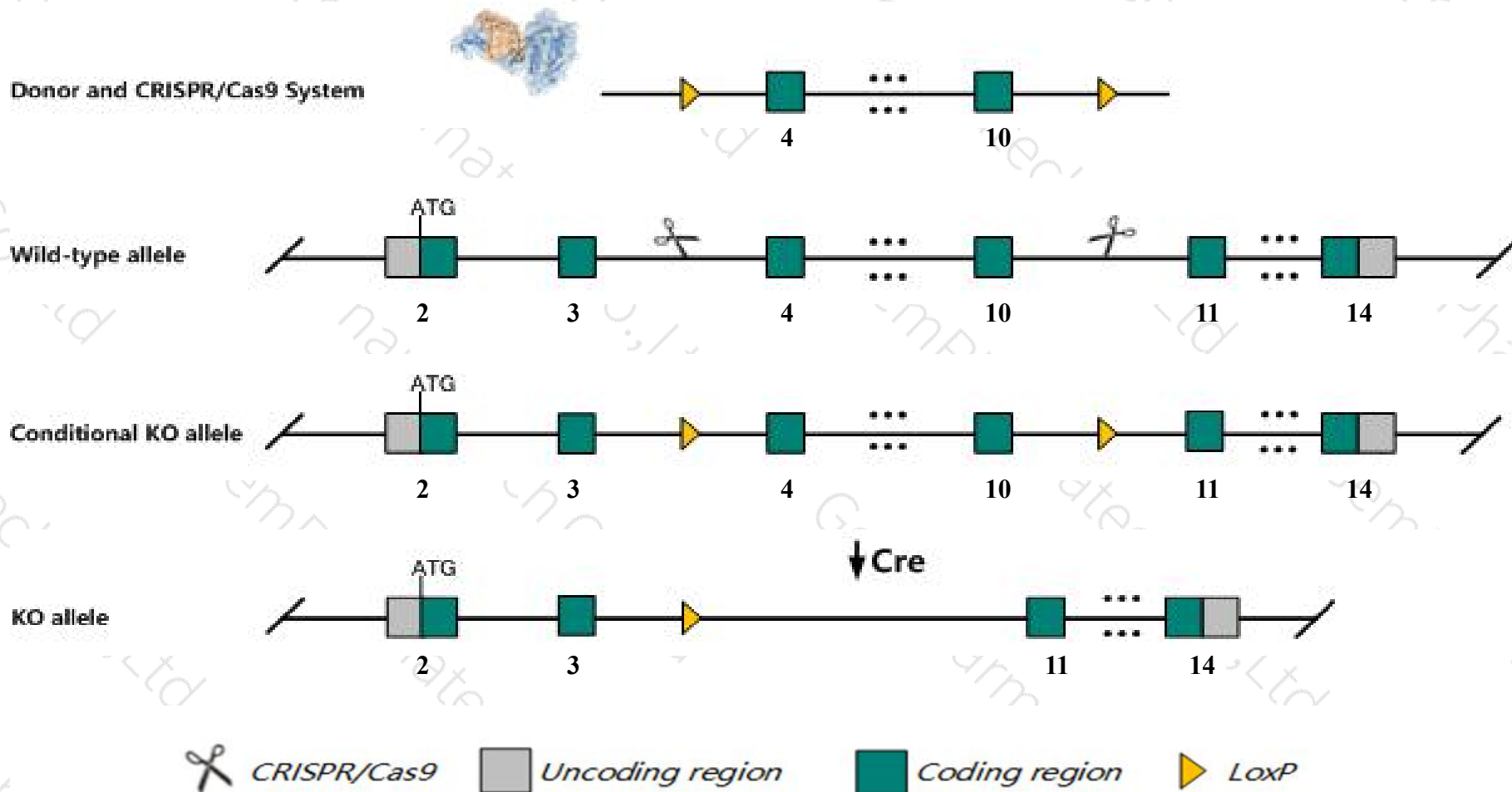
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

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



- The *Bicra* gene has 4 transcripts. According to the structure of *Bicra* gene, exon4-exon10 of *Bicra-201*(ENSMUST00000094821.3) transcript is recommended as the knockout region. The region contains 3194bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Bicra* gene. The brief process is as follows: CRISPR/Cas9 system and Donor were microinjected into the fertilized eggs of C57BL/6JGpt mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.
- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- The flox region overlaps with Gm38948-201 and destroys the gene at the same time.
- The *Bicra* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Bicra BRD4 interacting chromatin remodeling complex associated protein [Mus musculus (house mouse)]

Gene ID: 243842, updated on 13-Mar-2020

Summary



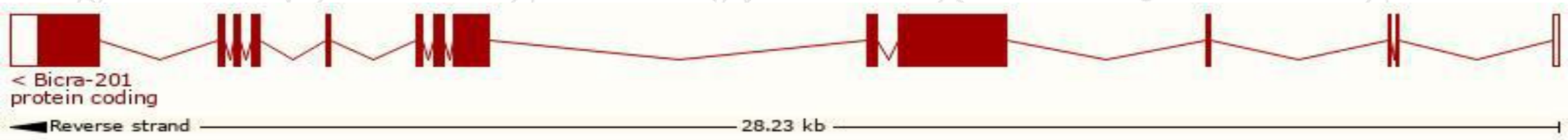
Official Symbol	Bicra provided by MGI
Official Full Name	BRD4 interacting chromatin remodeling complex associated protein provided by MGI
Primary source	MGI:MGI:2154263
See related	Ensembl:ENSMUSG00000070808
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Gltscr1
Expression	Ubiquitous expression in thymus adult (RPKM 18.0), spleen adult (RPKM 18.0) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

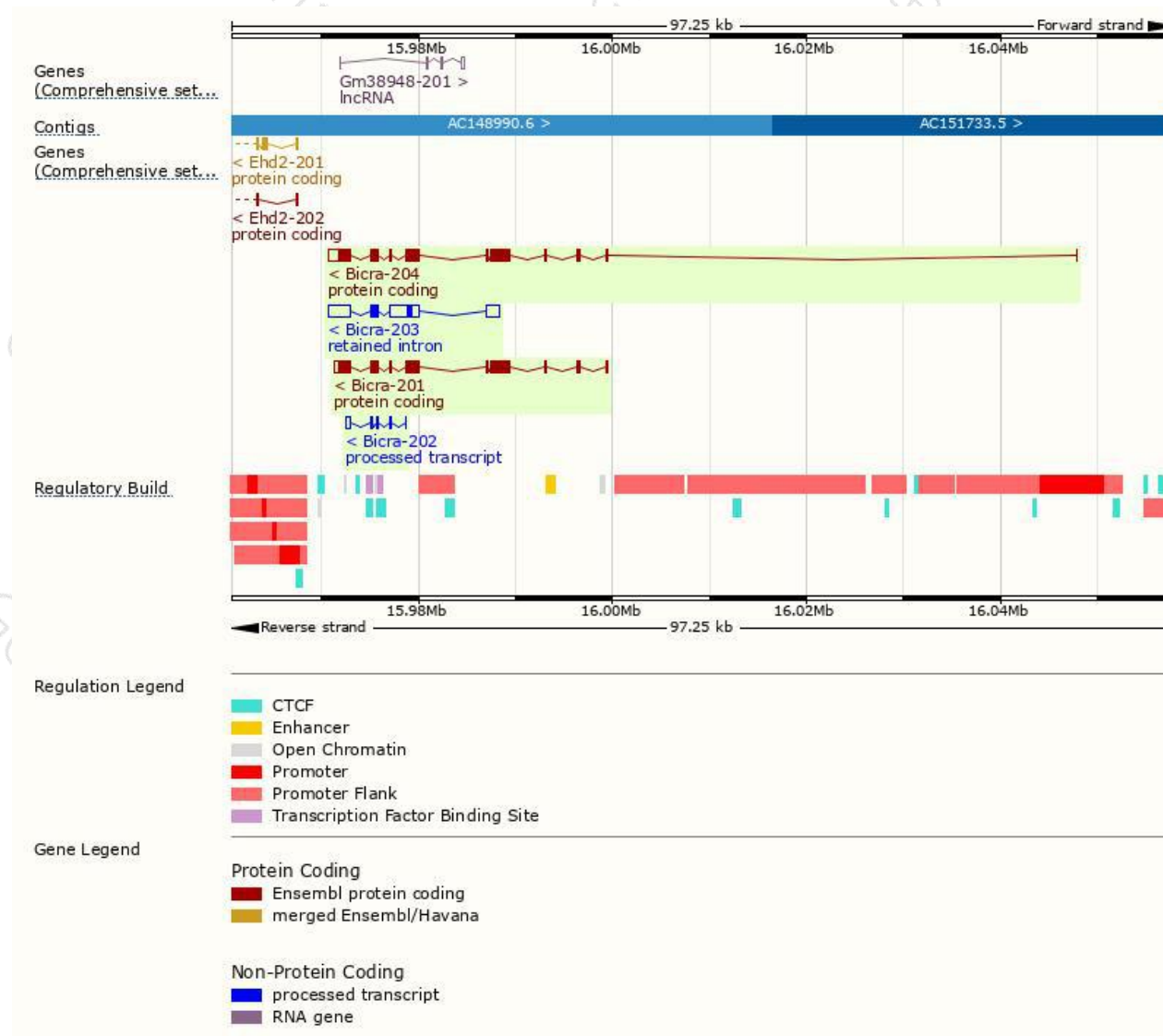
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Bicra-204	ENSMUST00000210781.1	5975	1578aa	Protein coding	CCDS39780	F8VPZ9	TSL:5 GENCODE basic APPRIS P1
Bicra-201	ENSMUST00000094821.3	5360	1578aa	Protein coding	CCDS39780	F8VPZ9	TSL:5 GENCODE basic APPRIS P1
Bicra-202	ENSMUST00000209251.1	665	No protein	Processed transcript	-	-	TSL:3
Bicra-203	ENSMUST00000210713.1	6623	No protein	Retained intron	-	-	TSL:1

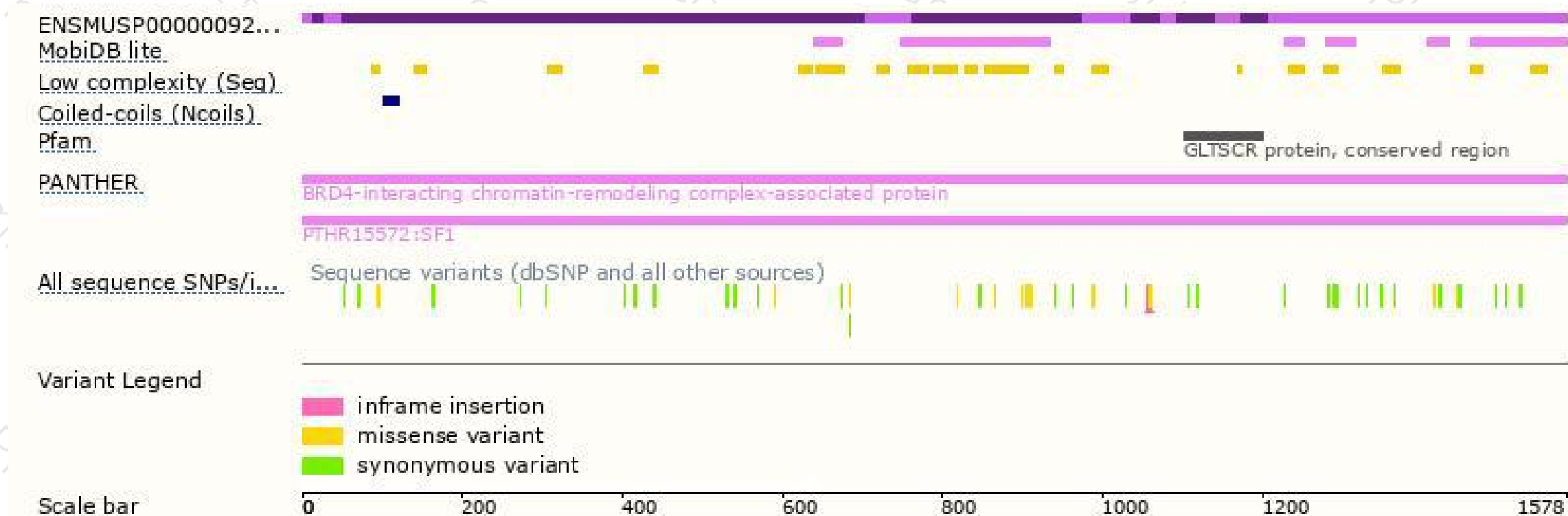
The strategy is based on the design of *Bicra-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

Tel: 400-9660890

