

***Fam160b1* Cas9-CKO Strategy**

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Project Overview

Project Name

Fam160b1

Project type

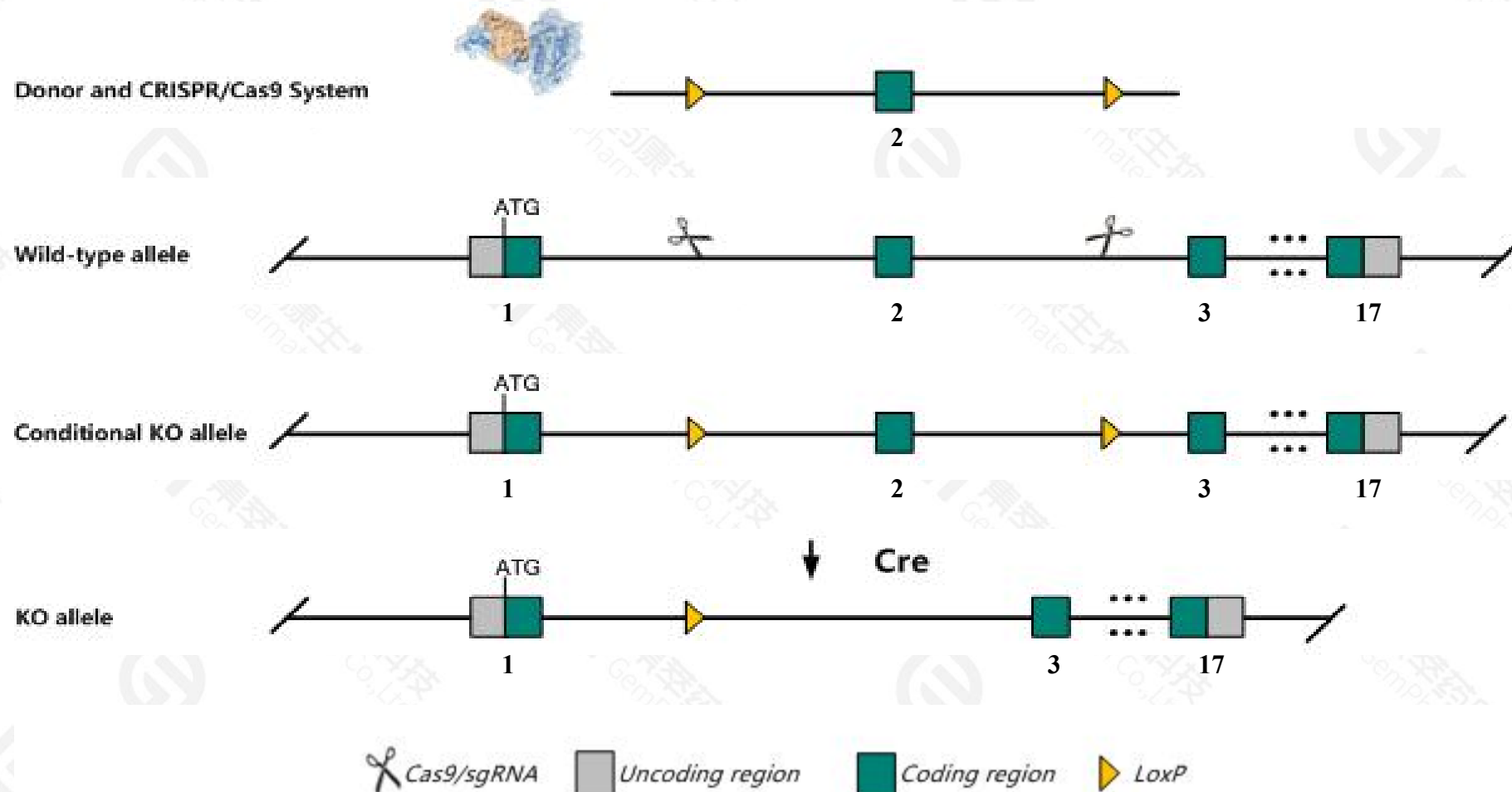
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fam160b1* gene. The schematic diagram is as follows:



Technical routes

- The *Fam160b1* gene has 2 transcripts. According to the structure of *Fam160b1* gene, exon2 of *Fam160b1*-201(ENSMUST00000036407.6) transcript is recommended as the knockout region. The region contains 79bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fam160b1* gene. The brief process is as follows: sgRNA was transcribed in vitro, donor was constructed. Cas9, sgRNA 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 was 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 *Fam160b1* gene is located on the Chr19. 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)

Fam160b1 family with sequence similarity 160, member B1 [Mus musculus (house mouse)]

Gene ID: 226252, updated on 17-Dec-2020

Summary



Official Symbol Fam160b1 provided by [MGI](#)

Official Full Name family with sequence similarity 160, member B1 provided by [MGI](#)

Primary source [MGI:MGI:2147545](#)

See related [Ensembl:ENSMUSG00000033478](#)

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 AI450540, mKIAA1600

Expression Ubiquitous expression in thymus adult (RPKM 9.1), limb E14.5 (RPKM 8.6) and 28 other tissues [See more](#)

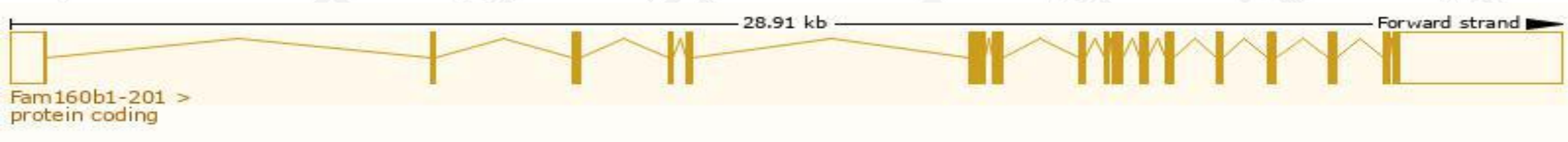
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

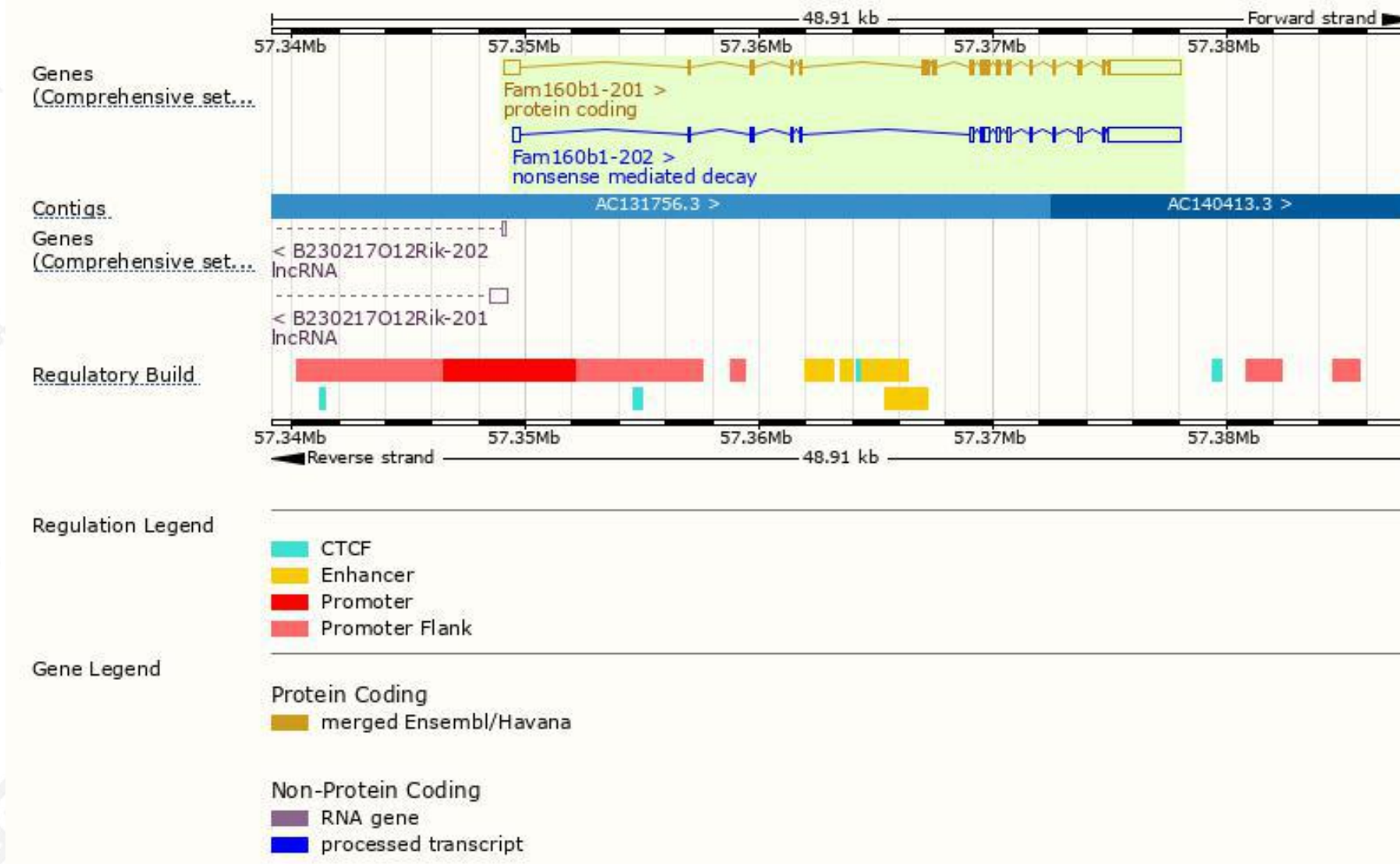
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fam160b1-201	ENSMUST00000036407.6	5951	764aa	Protein coding	CCDS29925		TSL:1 , GENCODE basic , APPRIS P1 ,
Fam160b1-202	ENSMUST00000237170.2	5110	180aa	Nonsense mediated decay	-		

The strategy is based on the design of *Fam160b1-201* transcript,the transcription is shown below:



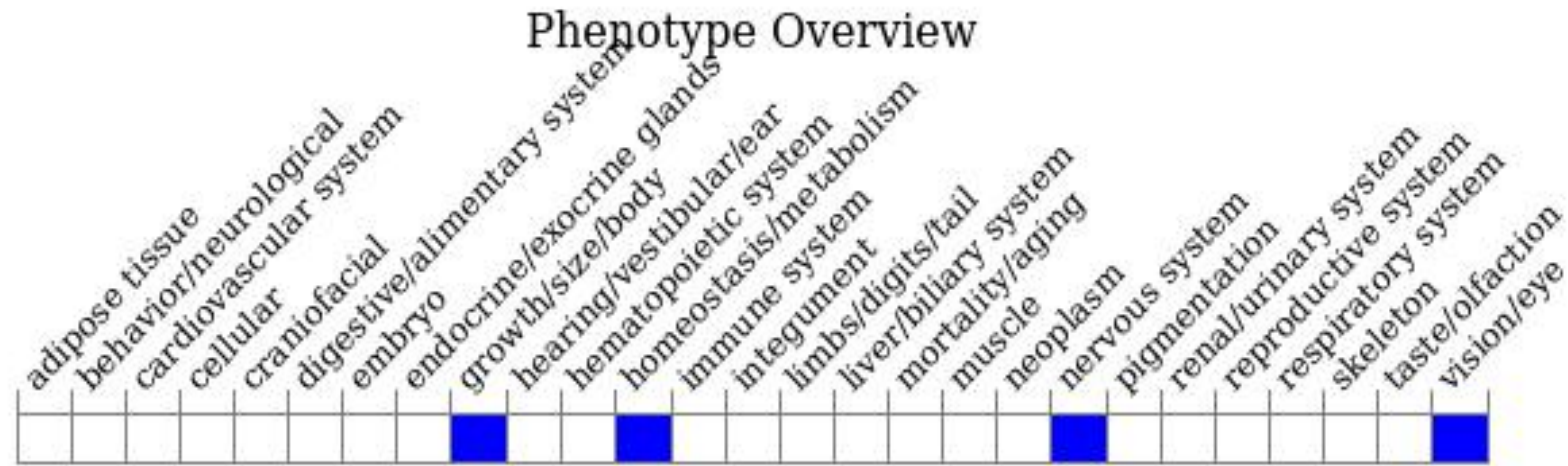
Genomic location distribution



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/>).

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

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