Baz2b Cas9-KO Strategy

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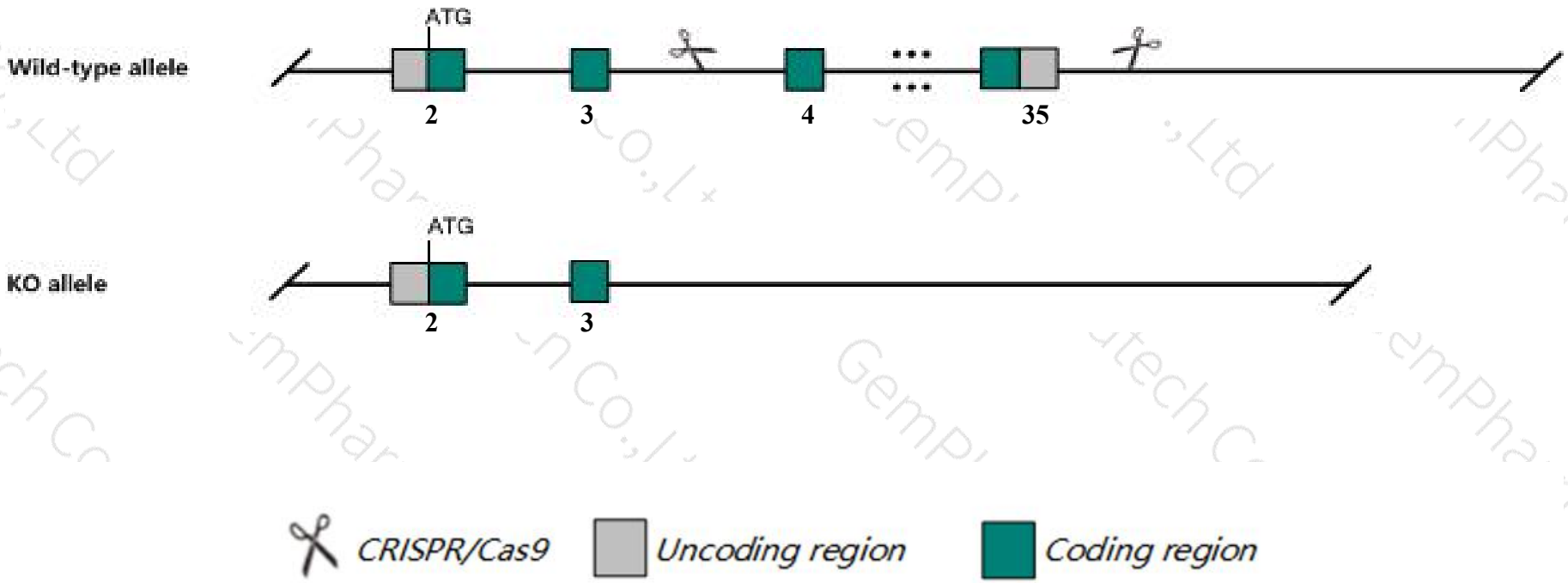
Project Overview

Project Name	***Baz2b***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Baz2b* gene. The schematic diagram is as follows:



Technical routes

➢ The *Baz2b* gene has 14 transcripts. According to the structure of *Baz2b* gene, exon4-exon35 of *Baz2b-202* (ENSMUST00000112550.7) transcript is recommended as the knockout region.The region contains most of the coding seque Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Baz2b* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

➢ The *Baz2b* gene is located on the Chr2. 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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Baz2b bromodomain adjacent to zinc finger domain, 2B [Mus musculus (house mouse)]

Gene ID: 407823, updated on 31-Jan-2019

Summary

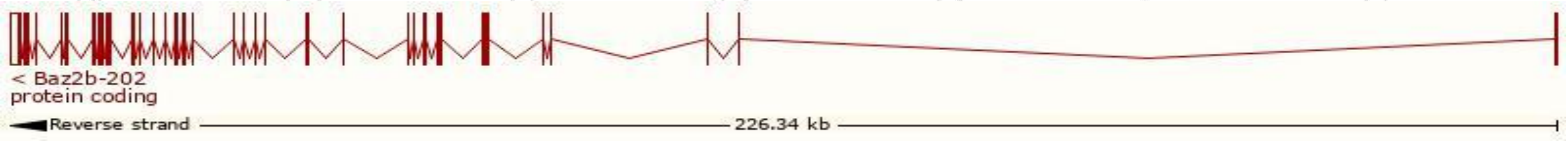
Official Symbol	Baz2b provided by MGI
Official Full Name	bromodomain adjacent to zinc finger domain, 2B provided byMGI
Primary source	MGI:MGI:2442782
See related	Ensembl:ENSMUSG00000026987
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	5830435C13Rik, BC053917, D2Ertd794e
Expression	Ubiquitous expression in CNS E11.5 (RPKM 6.2), CNS E14 (RPKM 5.3) and 26 other tissuesSee more
Orthologs	human all

Transcript information（Ensembl）

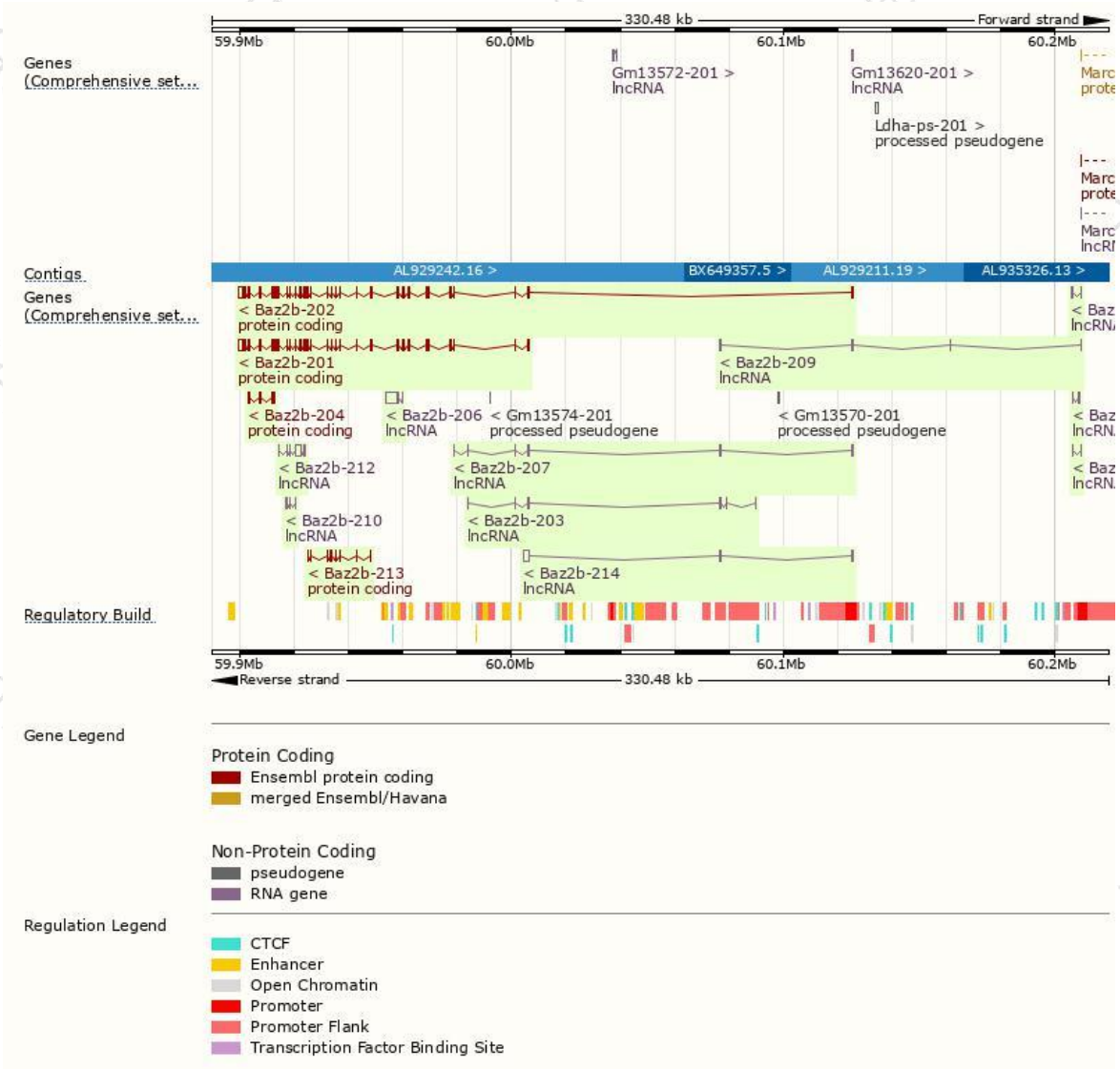
The gene has 14 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Baz2b-202	ENSMUST00000112550.7	7895	2123aa	Protein coding	CCDS16056	A2AUY4	TSL:5 GENCODE basic APPRIS P1
Baz2b-201	ENSMUST00000090925.12	7576	2123aa	Protein coding	CCDS16056	A2AUY4	TSL:5 GENCODE basic APPRIS P1
Baz2b-213	ENSMUST00000153136.1	890	296aa	Protein coding	-	A2AUY3	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:3
Baz2b-204	ENSMUST00000130637.1	759	253aa	Protein coding	-	F6R4Y5	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:3
Baz2b-206	ENSMUST00000135722.1	4561	No protein	lncRNA	-	-	TSL:1
Baz2b-212	ENSMUST00000152639.7	2539	No protein	lncRNA	-	-	TSL:1
Baz2b-214	ENSMUST00000153711.1	1813	No protein	lncRNA	-	-	TSL:1
Baz2b-210	ENSMUST00000147476.1	909	No protein	lncRNA	-	-	TSL:2
Baz2b-207	ENSMUST00000137480.7	740	No protein	lncRNA	-	-	TSL:2
Baz2b-211	ENSMUST00000151756.1	693	No protein	lncRNA	-	-	TSL:1
Baz2b-203	ENSMUST00000129124.7	665	No protein	lncRNA	-	-	TSL:3
Baz2b-209	ENSMUST00000144893.1	657	No protein	lncRNA	-	-	TSL:1
Baz2b-208	ENSMUST00000138089.1	509	No protein	lncRNA	-	-	TSL:2
Baz2b-205	ENSMUST00000134908.1	406	No protein	lncRNA	-	-	TSL:2

The strategy is based on the design of *Baz2b-202* transcript,The transcription is shown below

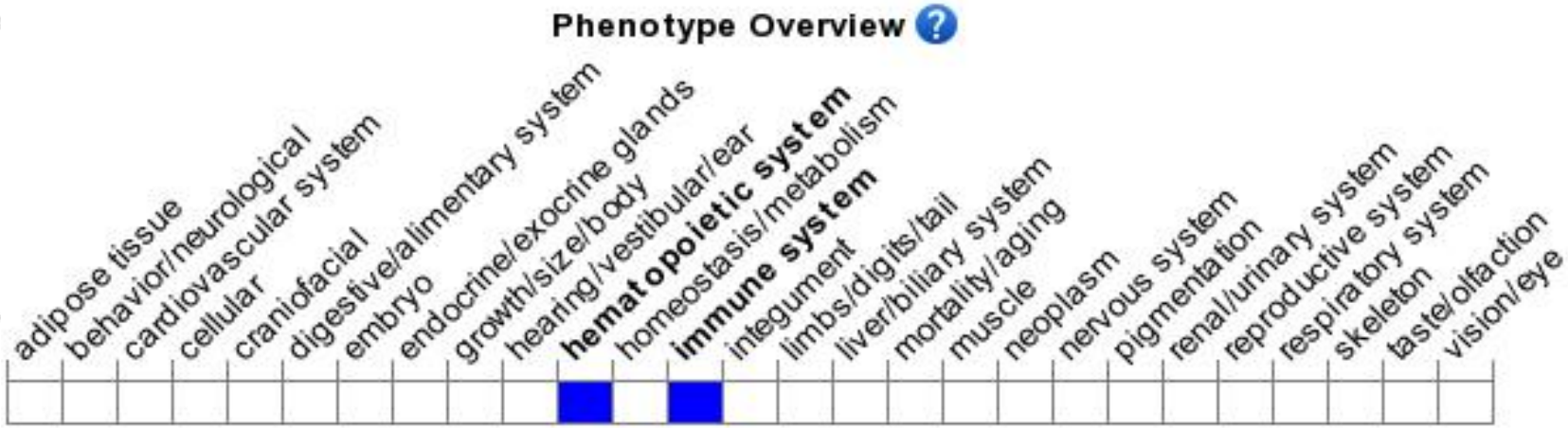


Genomic location distribution



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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