

Crebz Cas9-KO Strategy

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Design Date:

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Project Overview

Project Name

Crebzf

Project type

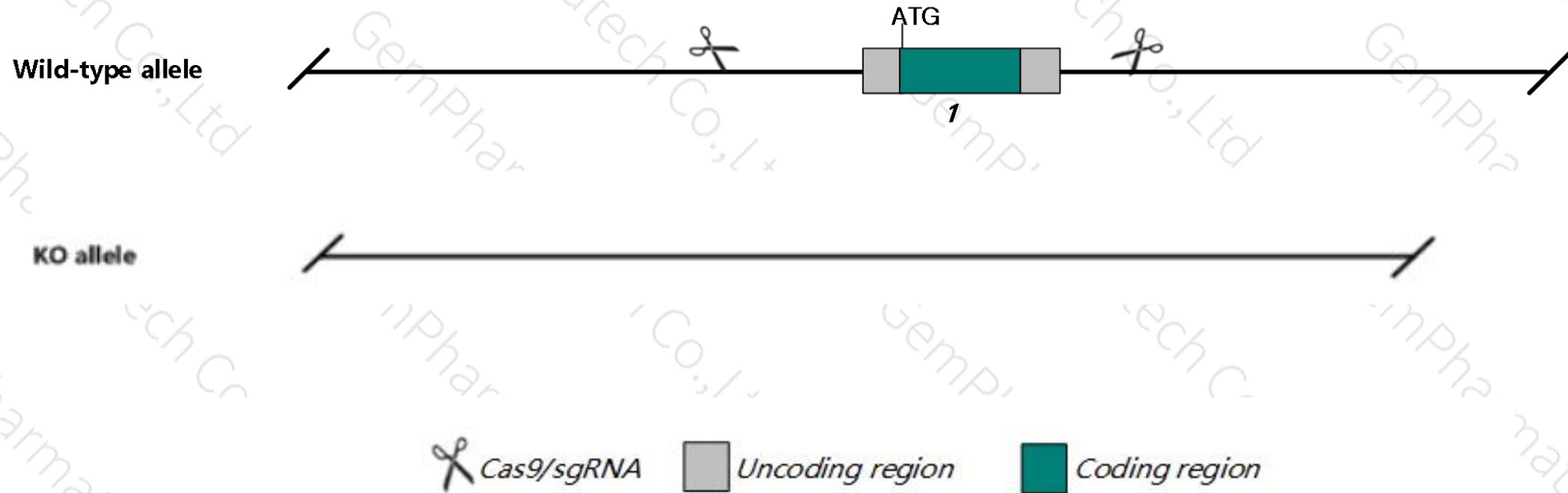
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Crebzf* gene has 9 transcripts. According to the structure of *Crebzf* gene, exon1 of *Crebzf-201* (ENSMUST00000061767.4) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Crebzf* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Crebzf* 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)

Crebzf CREB/ATF bZIP transcription factor [*Mus musculus* (house mouse)]

Gene ID: 233490, updated on 13-Mar-2020

Summary

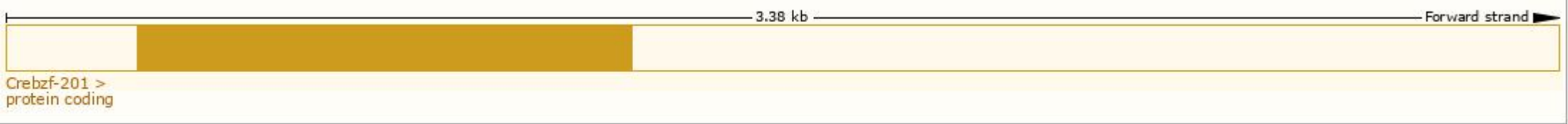
Official Symbol	Crebzf provided by MGI
Official Full Name	CREB/ATF bZIP transcription factor provided by MGI
Primary source	MGI:MGI:2675296
See related	Ensembl:ENSMUSG000000051451
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Zf; LAZip; SMILE; LAZipII; 1110034C16Rik; 6330417B10Rik
Expression	Ubiquitous expression in adrenal adult (RPKM 27.9), ovary adult (RPKM 27.4) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

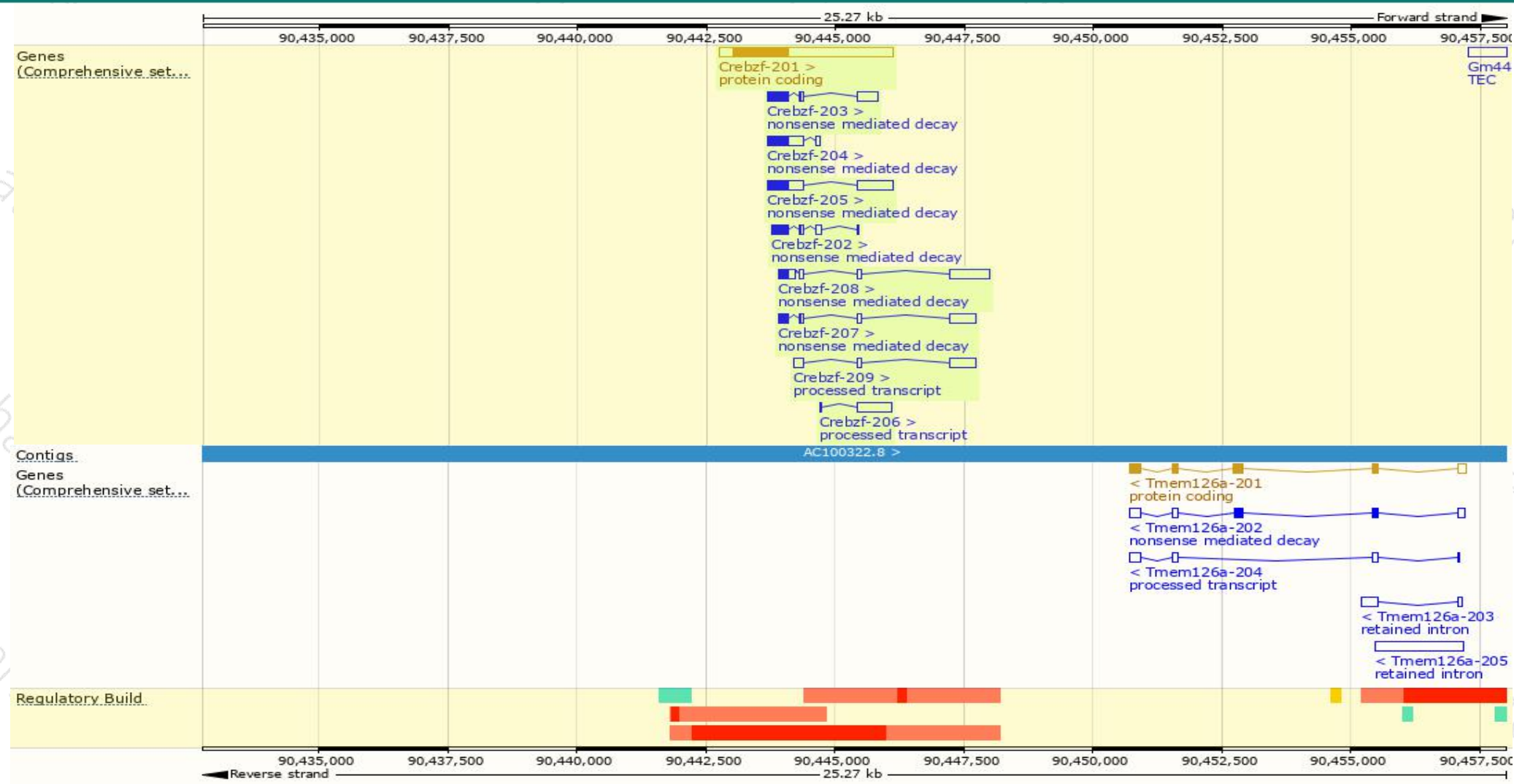
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Crebzf-201	ENSMUST00000061767.4	3376	358aa	Protein coding	CCDS40020	Q91ZR3	TSL:NA Gencode basic APPRIS P1
Crebzf-205	ENSMUST00000143408.2	1380	125aa	Nonsense mediated decay	-	A0A140LI74	TSL:2
Crebzf-208	ENSMUST00000208379.1	1269	70aa	Nonsense mediated decay	-	A0A140LHC8	CDS 5' incomplete TSL:3
Crebzf-203	ENSMUST00000107206.2	891	129aa	Nonsense mediated decay	-	A0A171EBL1	TSL:2
Crebzf-207	ENSMUST00000207252.1	873	72aa	Nonsense mediated decay	-	A0A140LHY1	CDS 5' incomplete TSL:3
Crebzf-204	ENSMUST00000126041.1	792	125aa	Nonsense mediated decay	-	A0A140LI74	TSL:3
Crebzf-202	ENSMUST00000107205.2	537	116aa	Nonsense mediated decay	-	D3YUZ4	CDS 5' incomplete TSL:5
Crebzf-209	ENSMUST00000209102.1	789	No protein	Processed transcript	-	-	TSL:2
Crebzf-206	ENSMUST00000146291.1	701	No protein	Processed transcript	-	-	TSL:3

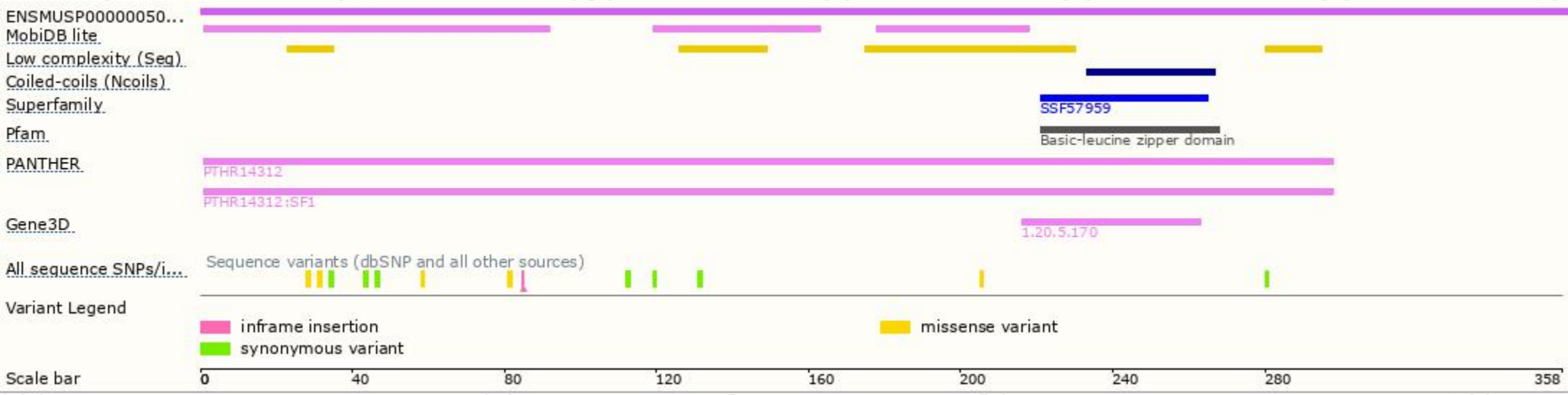
The strategy is based on the design of *Crebzf-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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