

Cdc34 Cas9-KO Strategy

Designer:

Qiong Zhou

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Project Overview

Project Name

Cdc34

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Cdc34* gene. The schematic diagram is as follows:



- The *Cdc34* gene has 11 transcripts. According to the structure of *Cdc34* gene, exon2-exon4 of *Cdc34-201* (ENSMUST00000020550.12) transcript is recommended as the knockout region. The region contains 320bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cdc34* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Cdc34* gene is located on the Chr10. 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)

Cdc34 cell division cycle 34 [Mus musculus (house mouse)]

Gene ID: 216150, updated on 31-Jan-2019

Summary



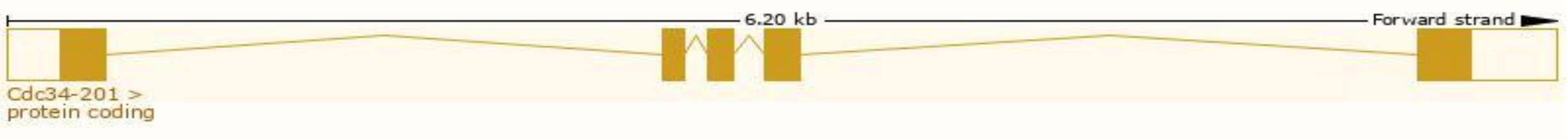
Official Symbol	Cdc34 provided by MGI
Official Full Name	cell division cycle 34 provided by MGI
Primary source	MGI:MGI:102657
See related	Ensembl:ENSMUSG00000020307
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI327276, E2-CDC34, UBE2R1
Expression	Ubiquitous expression in testis adult (RPKM 167.9), placenta adult (RPKM 79.7) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

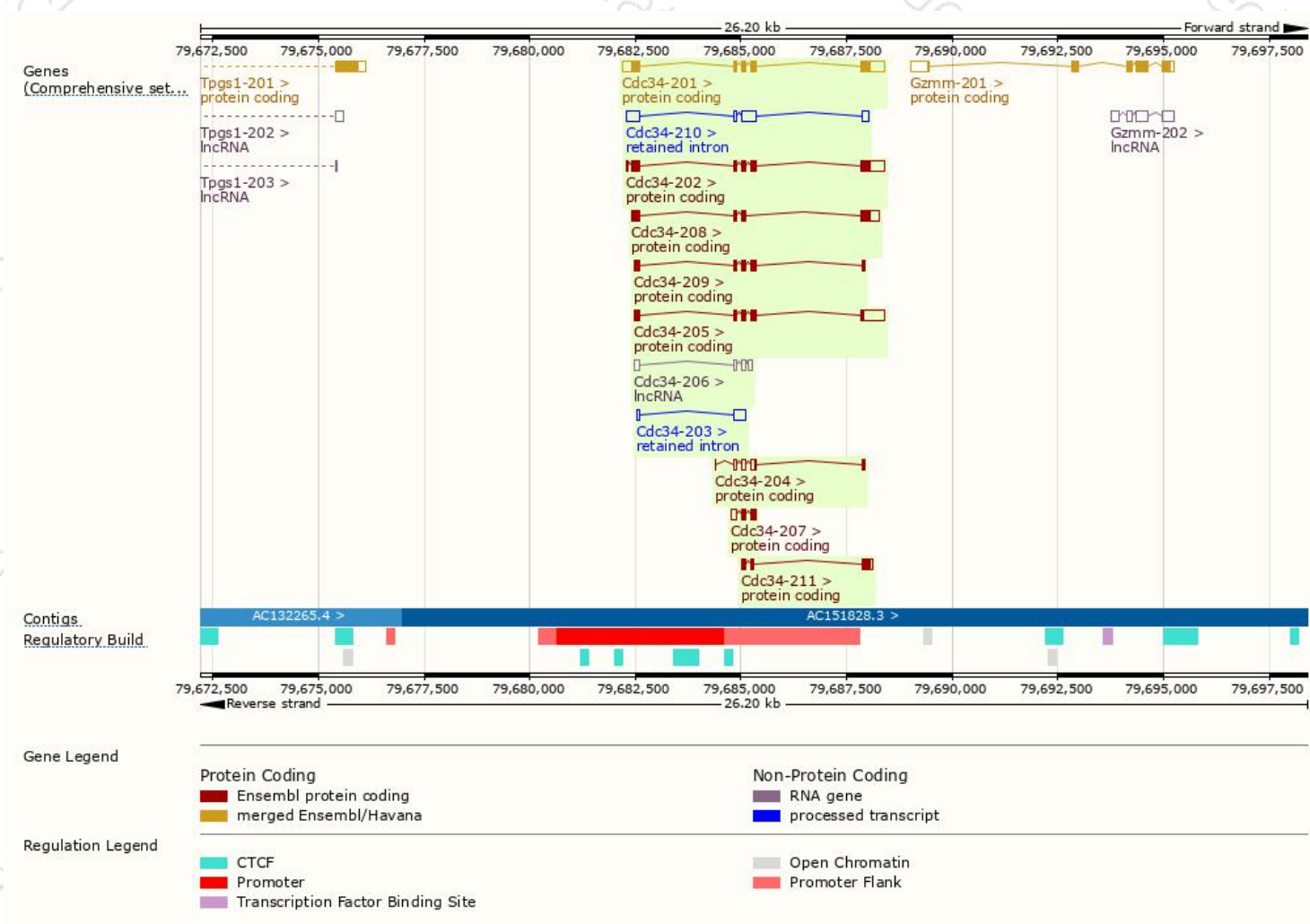
The gene has 11 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cdc34-201	ENSMUST00000020550.12	1266	235aa	Protein coding	CCDS23983	Q8CFI2	TSL:1 GENCODE basic APPRIS P1
Cdc34-202	ENSMUST00000166603.1	1078	235aa	Protein coding	CCDS23983	Q8CFI2	TSL:1 GENCODE basic APPRIS P1
Cdc34-205	ENSMUST00000218964.1	979	159aa	Protein coding	-	A0A1W2P8B1	CDS 5' incomplete TSL:5
Cdc34-208	ENSMUST00000219791.1	799	190aa	Protein coding	-	A0A1W2P7U1	TSL:3 GENCODE basic
Cdc34-209	ENSMUST00000219930.1	534	162aa	Protein coding	-	A0A1W2P7U9	CDS 5' incomplete TSL:3
Cdc34-204	ENSMUST00000218938.1	422	44aa	Protein coding	-	A0A1W2P861	CDS 3' incomplete TSL:3
Cdc34-211	ENSMUST00000220328.1	408	116aa	Protein coding	-	A0A1W2P7T2	CDS 5' incomplete TSL:3
Cdc34-207	ENSMUST00000219389.1	380	86aa	Protein coding	-	A0A1W2P892	CDS 3' incomplete TSL:2
Cdc34-206	ENSMUST00000219074.1	377	No protein	Processed transcript	-	-	TSL:3
Cdc34-210	ENSMUST00000220133.1	914	No protein	Retained intron	-	-	TSL:5
Cdc34-203	ENSMUST00000217689.1	370	No protein	Retained intron	-	-	TSL:2

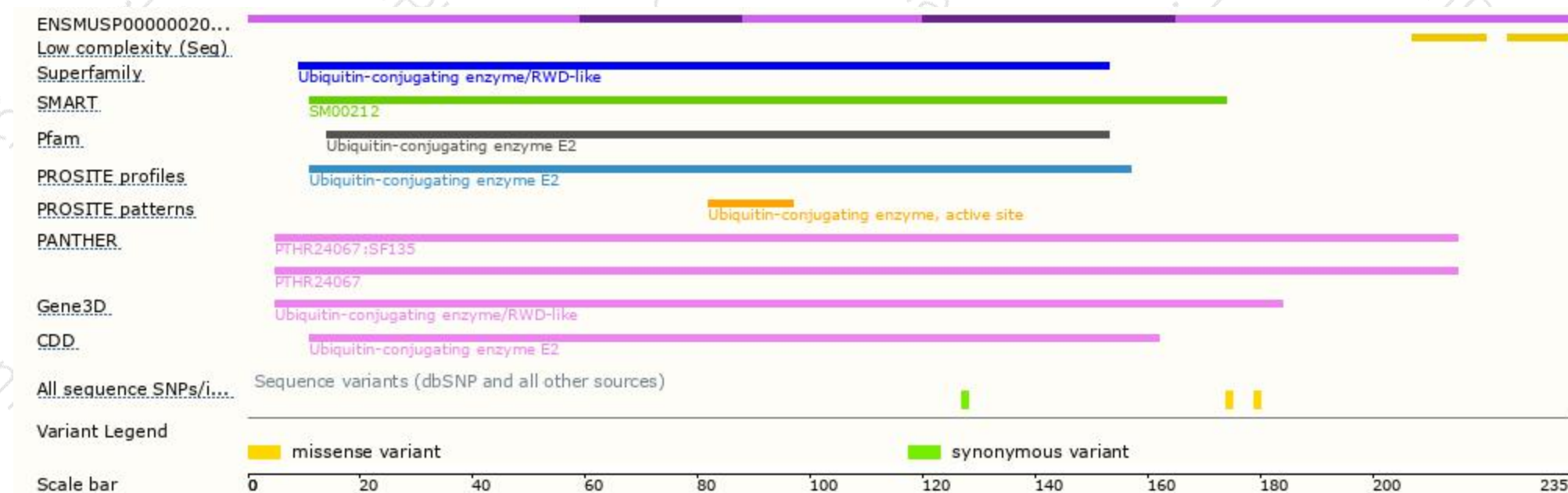
The strategy is based on the design of *Cdc34-201* transcript,The transcription is shown below



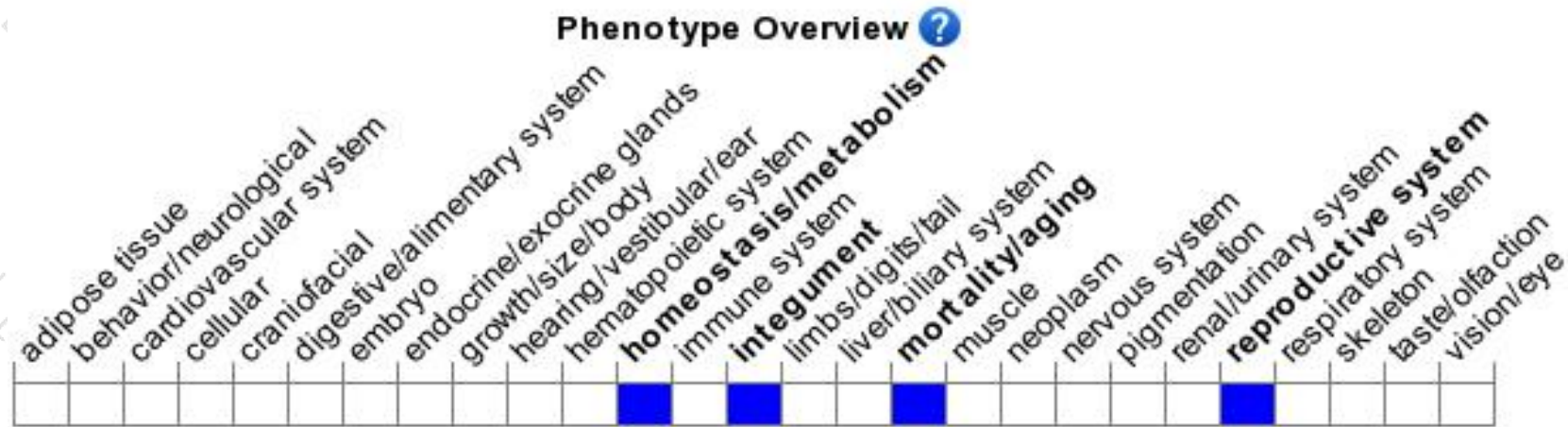
Genomic location distribution



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.

Tel: 400-9660890

