

Med30 Cas9-CKO Strategy

Designer: Lingyan Wu

Reviewer: Miaomiao Cui

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Project Overview

Project Name

Med30

Project type

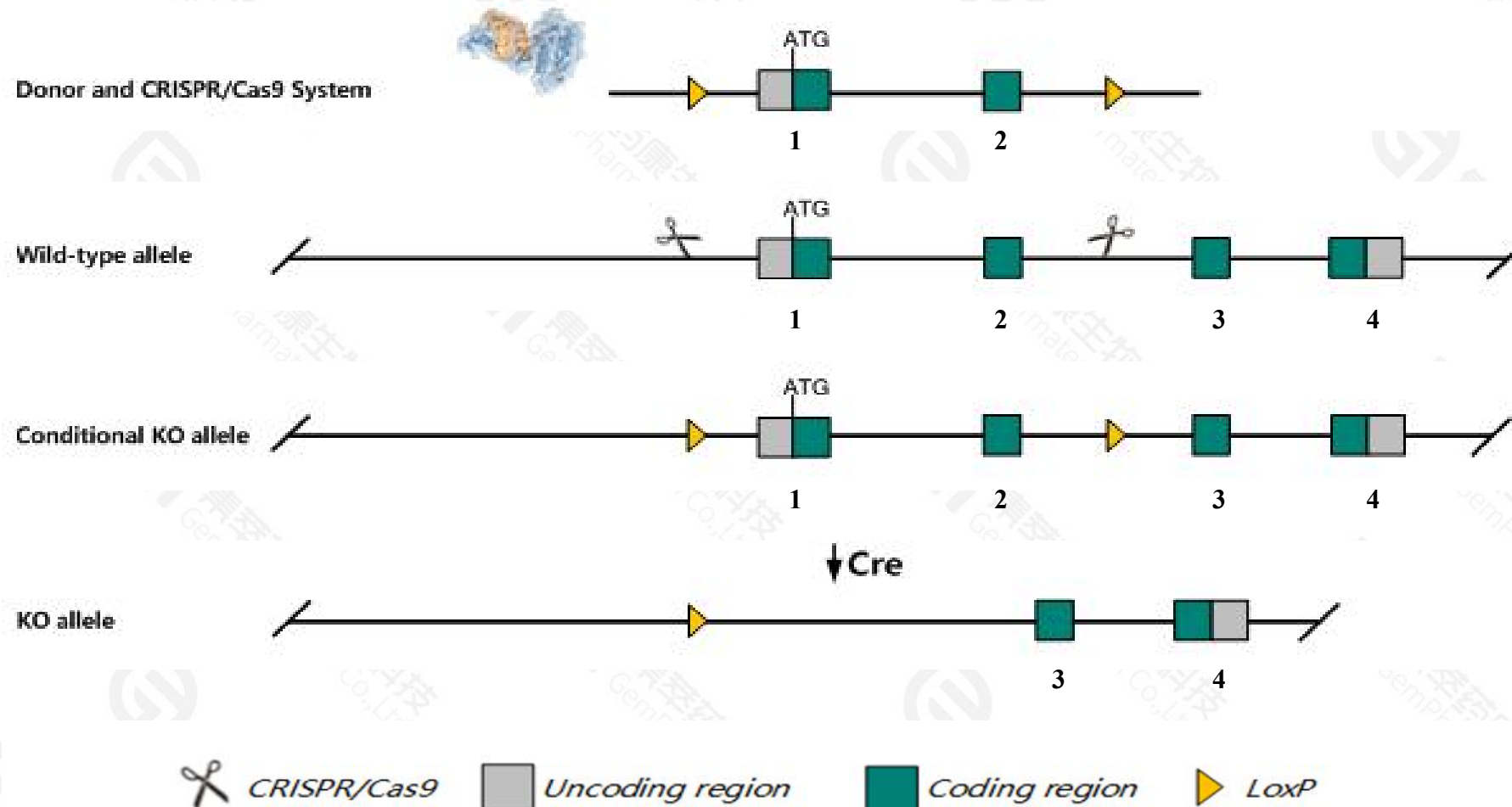
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Med30* gene. The schematic diagram is as follows:



- The *Med30* gene has 2 transcripts. According to the structure of *Med30* gene, exon1-exon2 of *Med30-201*(ENSMUST00000037115.9) transcript is recommended as the knockout region. The region contains start codon ATG. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Med30* 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.

- According to the existing MGI data, mice homozygous for an ENU-induced allele exhibit premature death associated with cachexia and a rapidly progressive cardiomyopathy.
- The *Med30* gene is located on the Chr15. 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)

Med30 mediator complex subunit 30 [Mus musculus (house mouse)]

Gene ID: 69790, updated on 3-Oct-2020

Summary



Official Symbol Med30 provided by [MGI](#)

Official Full Name mediator complex subunit 30 provided by [MGI](#)

Primary source [MGI:MGI:1917040](#)

See related [Ensembl:ENSMUSG00000038622](#)

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 1810038N03Rik, 2510044J04Rik, TRAP25, Thr, Thrap6, Tra

Expression Ubiquitous expression in adrenal adult (RPKM 120.3), thymus adult (RPKM 50.8) and 27 other tissues [See more](#)

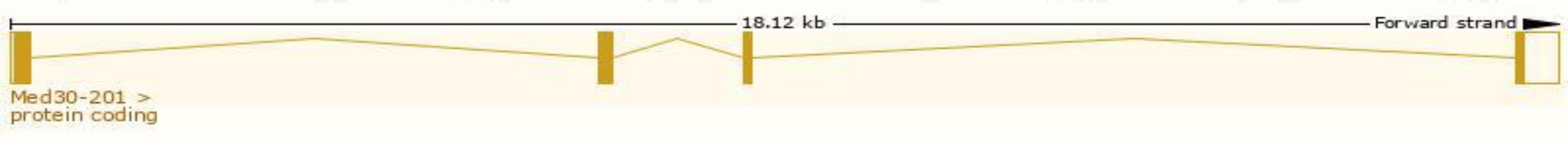
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

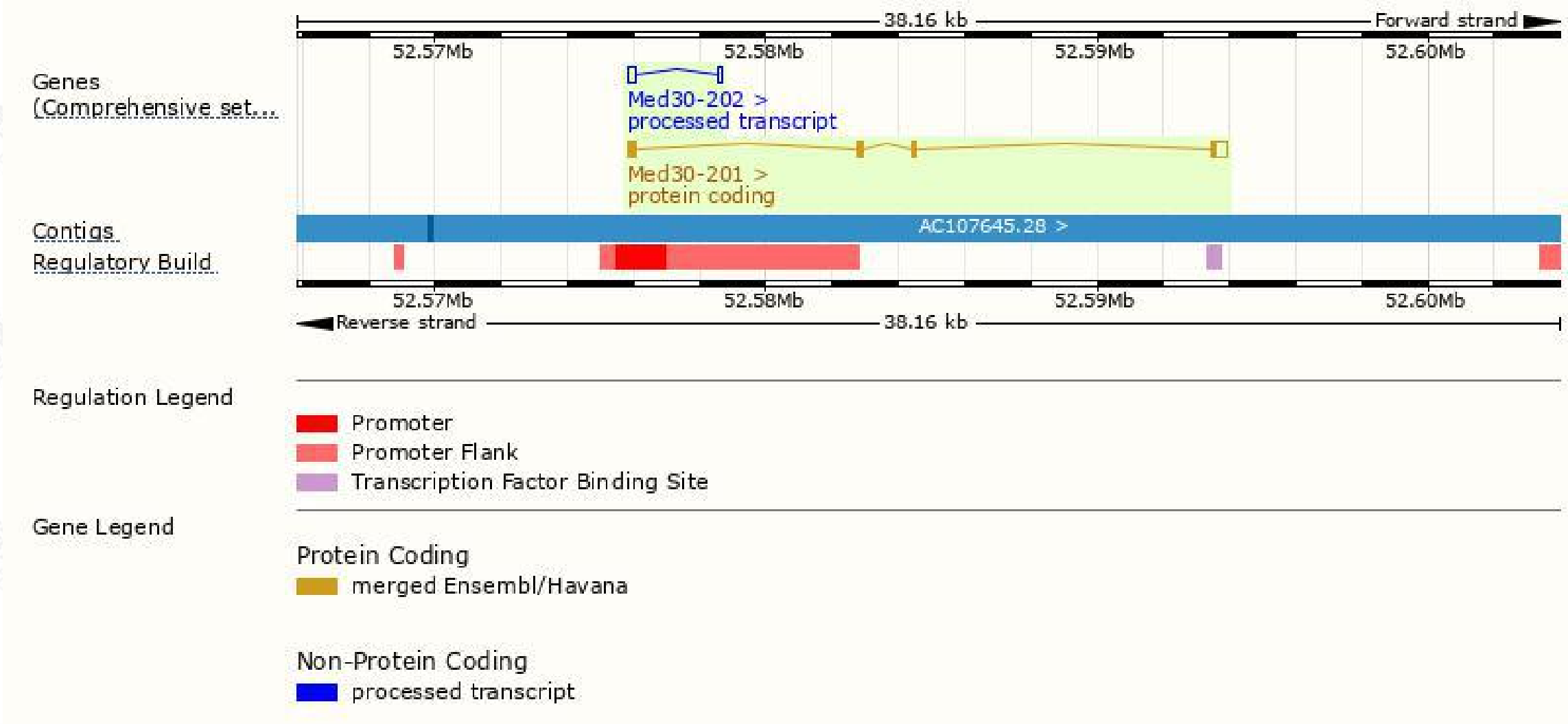
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Med30-201	ENSMUST00000037115.9	1007	178aa	Protein coding	CCDS27465		TSL:1 , GENCODE basic , APPRIS P1 ,
Med30-202	ENSMUST00000228053.2	423	No protein	Processed transcript	-		

The strategy is based on the design of *Med30-201* transcript,the transcription is shown below:



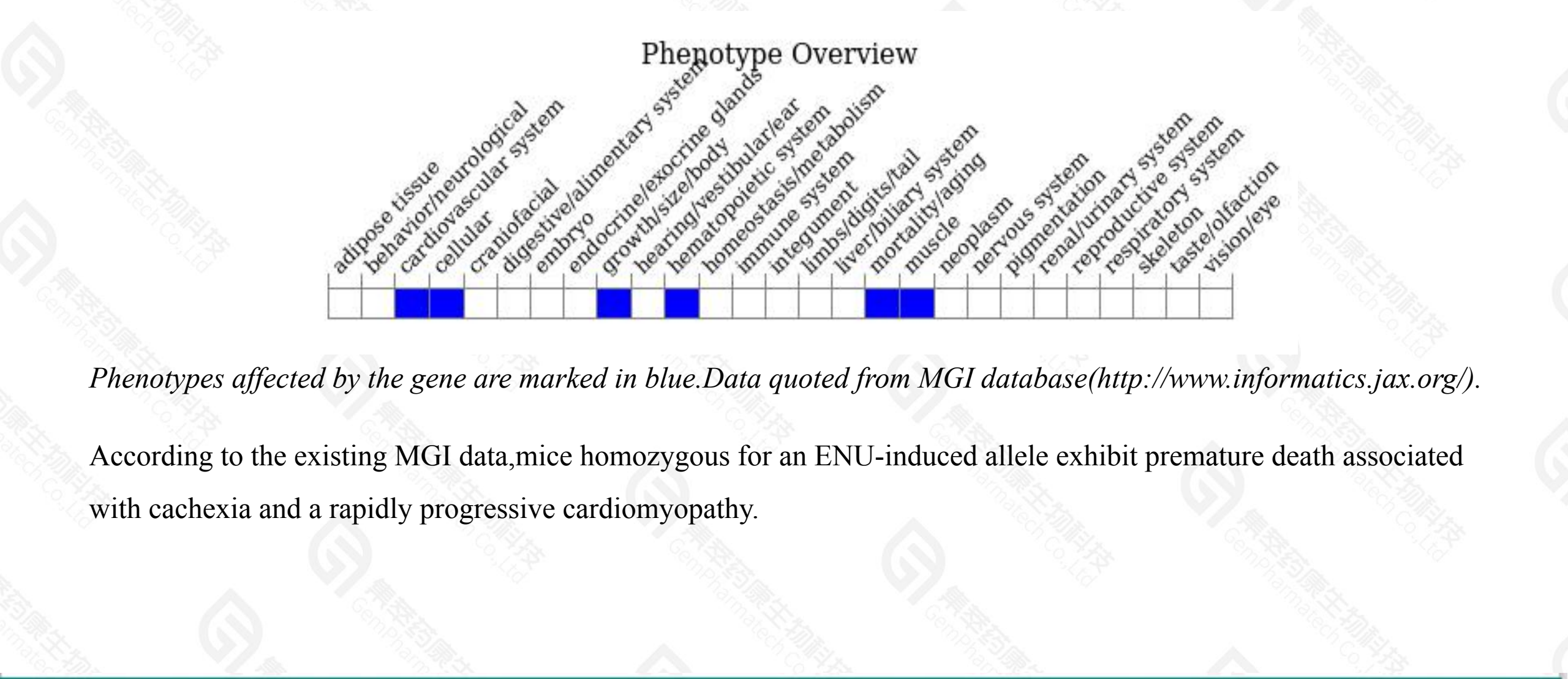
Genomic location distribution



Protein domain



集萃药康
GemPharmatech



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

According to the existing MGI data, mice homozygous for an ENU-induced allele exhibit premature death associated with cachexia and a rapidly progressive cardiomyopathy.

If you have any questions, you are welcome to inquire.
Tel: 400-9660890

