

Mettl7b Cas9-KO Strategy

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Reviewer:

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Project Overview

Project Name

Mettl7b

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Mettl7b* gene. The schematic diagram is as follows:



- The *Mettl7b* gene has 1 transcript. According to the structure of *Mettl7b* gene, exon1 of *Mettl7b-201* (ENSMUST00000026398.4) 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 *Mettl7b* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Mettl7b* 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)

Mettl7b methyltransferase like 7B [Mus musculus (house mouse)]

Gene ID: 71664, updated on 8-Feb-2019

Summary



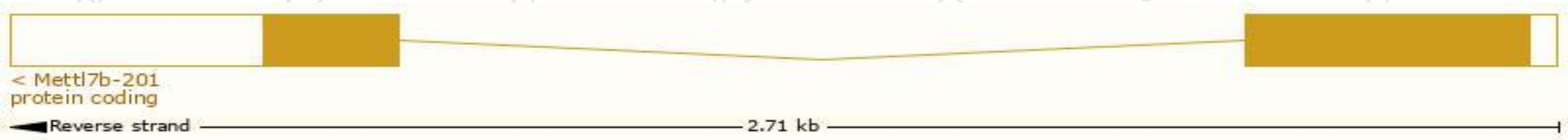
Official Symbol	Mettl7b provided by MGI
Official Full Name	methyltransferase like 7B provided by MGI
Primary source	MGI:MGI:1918914
See related	Ensembl:ENSMUSG00000025347
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	0610006F02Rik, AI266817
Expression	Biased expression in liver adult (RPKM 329.6), kidney adult (RPKM 92.7) and 4 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

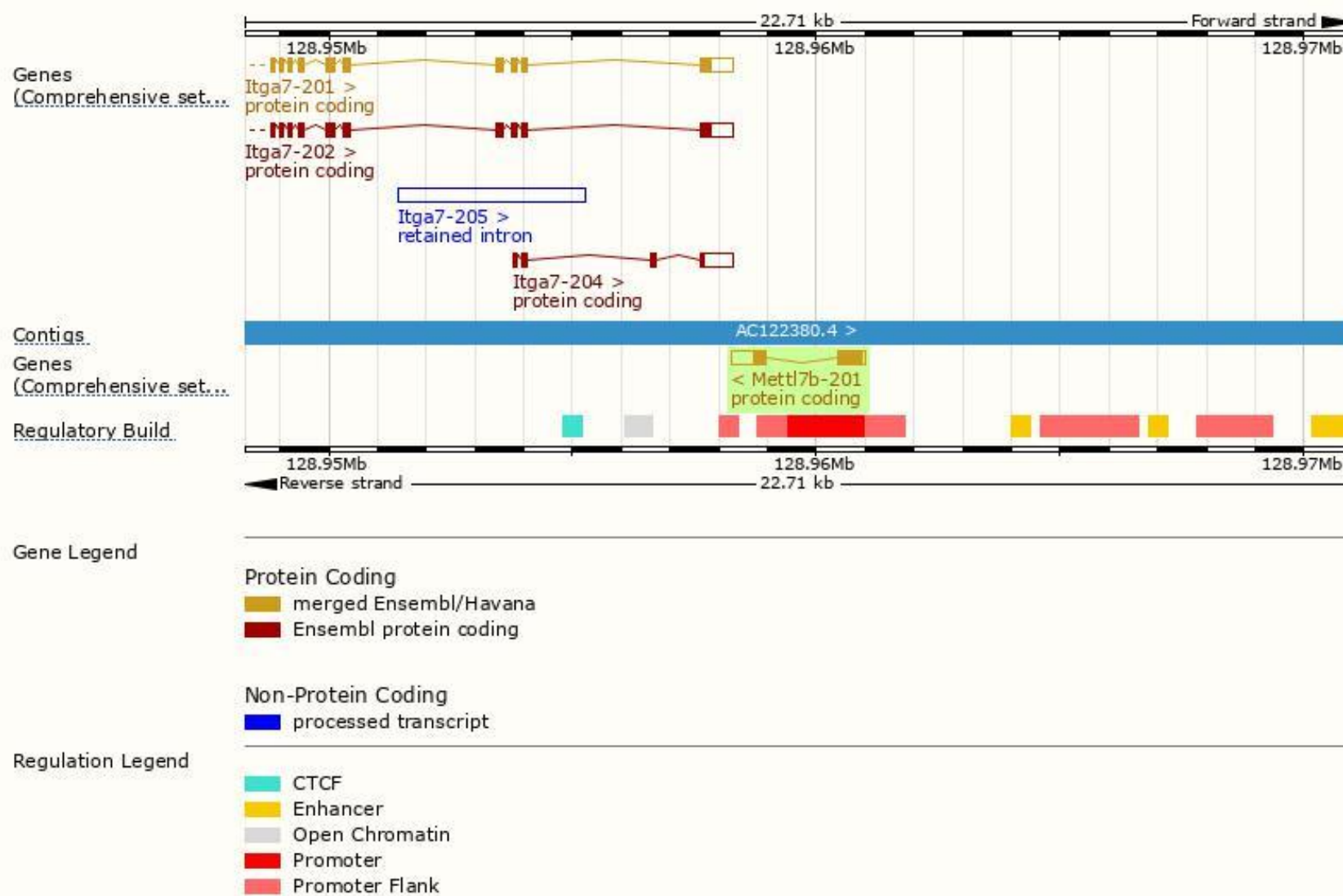
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Mettl7b-201	ENSMUST00000026398.4	1230	244aa	Protein coding	CCDS24301	Q9DD20	TSL:1 GENCODE basic APPRIS P1

The strategy is based on the design of *Mettl7b-201* transcript, The transcription is shown below



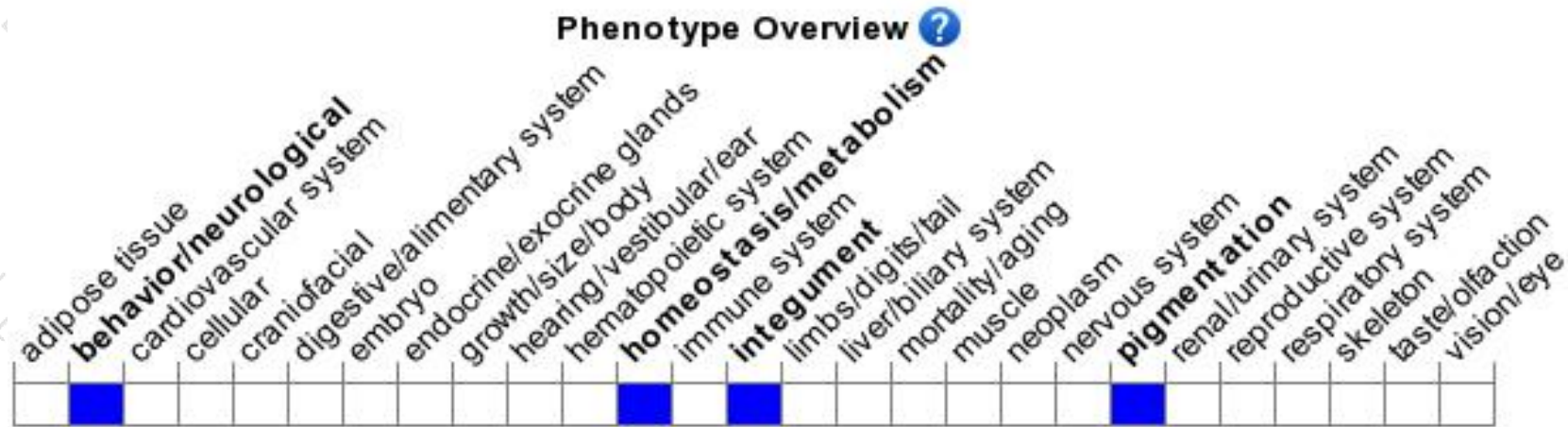
Genomic location distribution



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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