Mrps28 Cas9-KO Strategy

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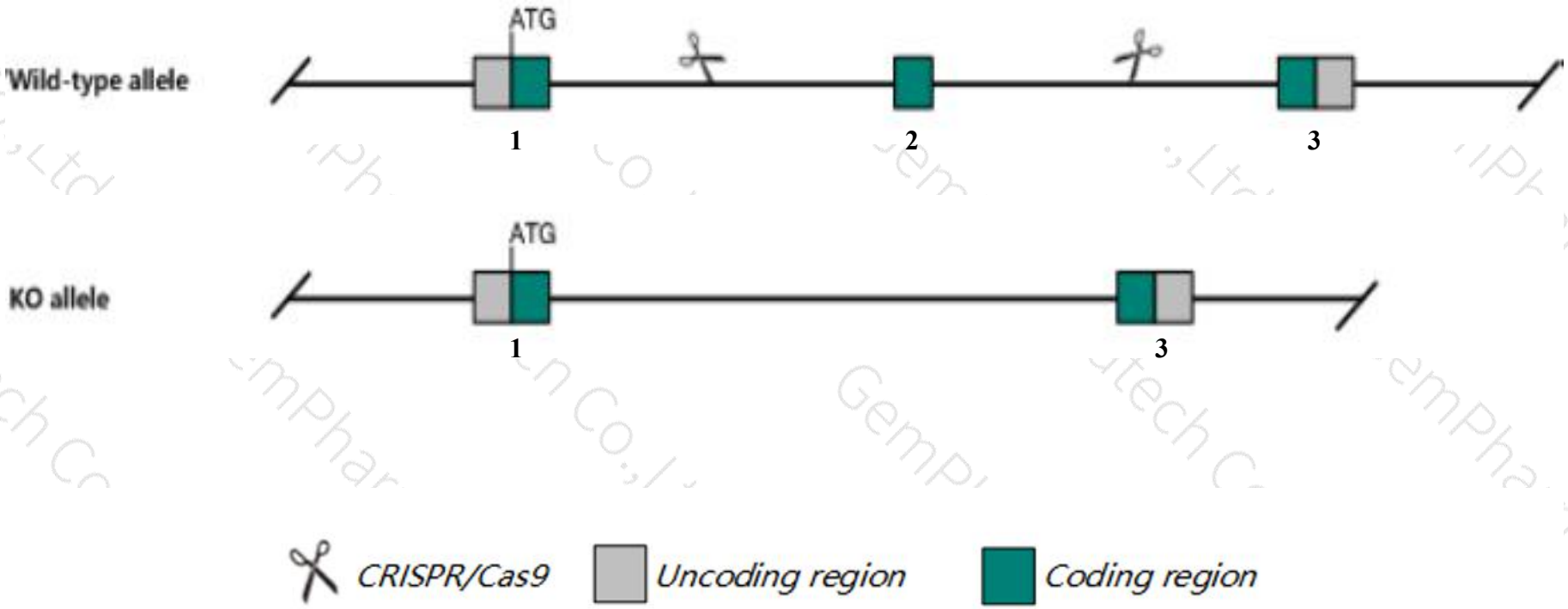
Project Overview

Project Name	***Mrps28***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Mrps28* gene. The schematic diagram is as follows:



Technical routes

➢ The *Mrps28* gene has 1 transcript. According to the structure of *Mrps28* gene, exon2 of *Mrps28-201* (ENSMUST00000042148.5) transcript is recommended as the knockout region.The region contains 182bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Mrps28* gene. The brief process is as follows: CRISPR/Cas9 syste

Notice

- The *Mrps28* gene is located on the Chr3. 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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Mrps28 mitochondrial ribosomal protein S28 [Mus musculus (house mouse)]

Gene ID: 66230, updated on 13-Mar-2020

Summary

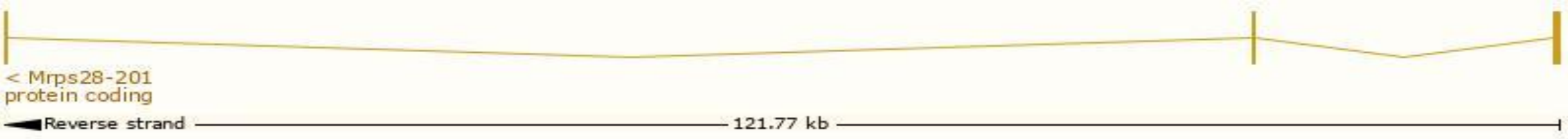
Official Symbol	Mrps28 provided by MGI
Official Full Name	mitochondrial ribosomal protein S28 provided by MGI
Primary source	MGI:MGI:1913480
See related	Ensembl:ENSMUSG00000040269
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	1500012D08Rik, AW061224
Expression	Ubiquitous expression in adrenal adult (RPKM 47.0), liver E14.5 (RPKM 25.2) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

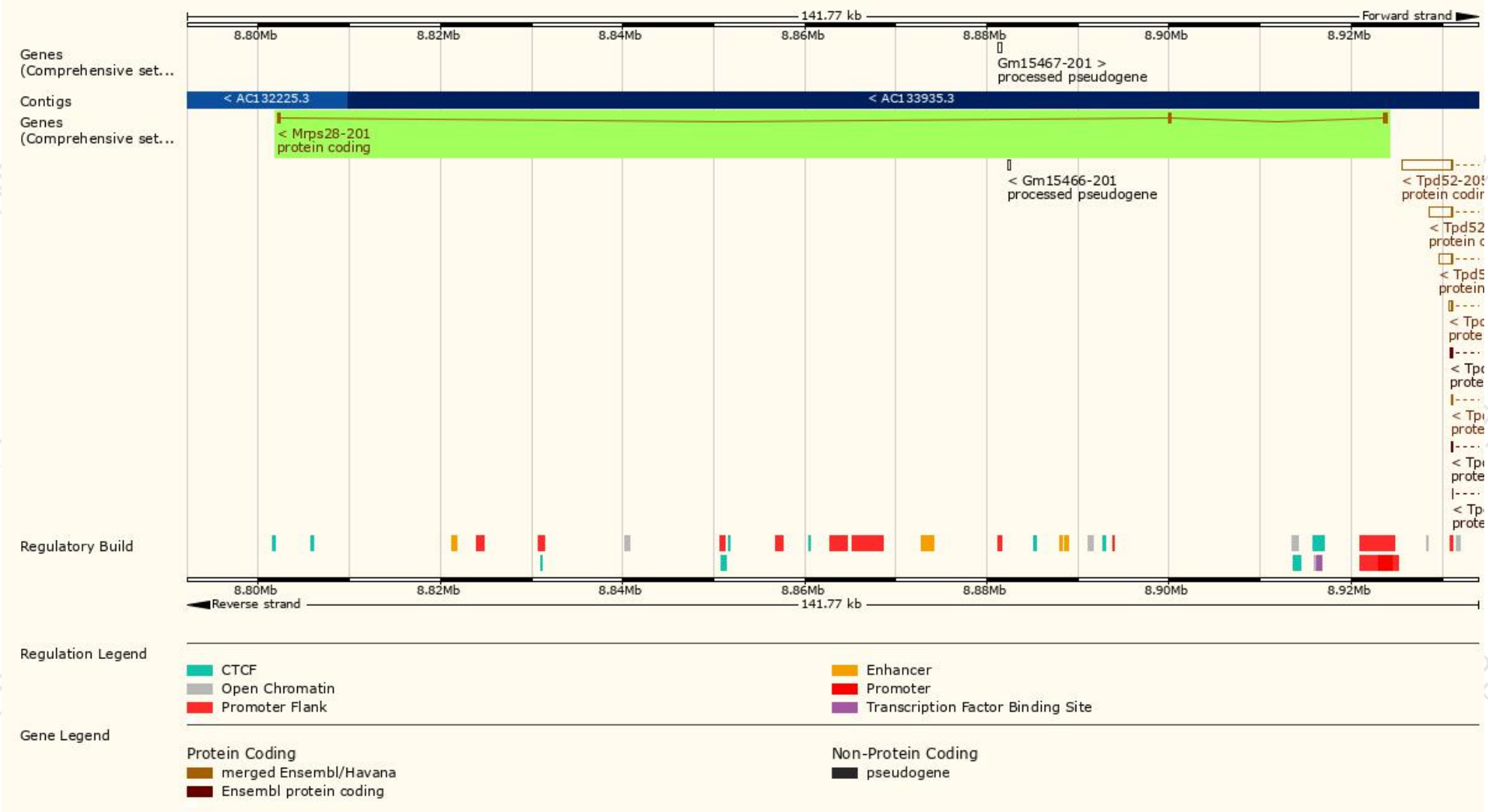
The gene has 1 transcript,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Mrps28-201	ENSMUST00000042148.5	783	186aa	Protein coding	CCDS17233	Q9CY16	TSL:1 GENCODE basic APPRIS P1

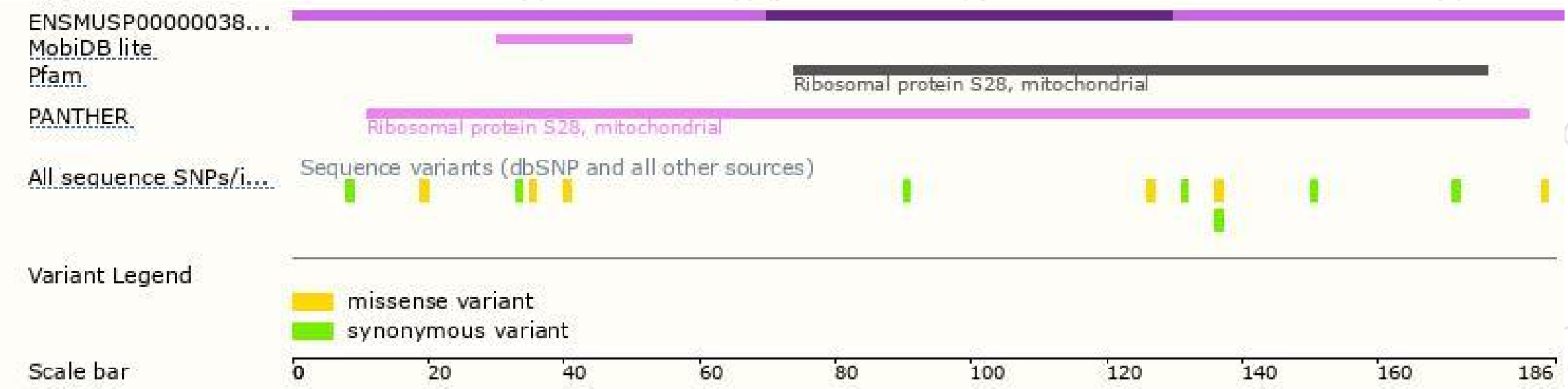
The strategy is based on the design of *Mrps28-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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