

4932438H23Rik Cas9-KO Strategy

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Project Overview

Project Name

4932438H23Rik

Project type

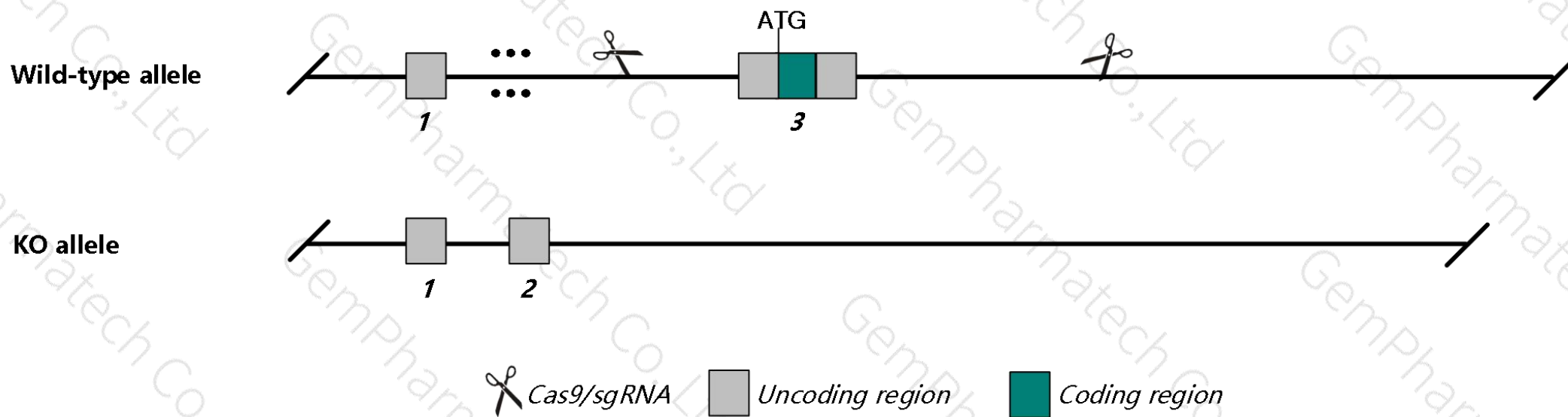
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *4932438H23Rik* gene. The schematic diagram is as follows:



Technical routes

- The *4932438H23Rik* gene has 3 transcripts. According to the structure of *4932438H23Rik* gene, exon3 of *4932438H23Rik-201* (ENSMUST00000035689.7) 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 *4932438H23Rik* gene. The brief process is as follows: CRISPR/Cas9 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 KO region contains functional region of the *4931406G06Rik* gene. Knockout the region may affect the function of *4931406G06Rik* gene.
- The *4932438H23Rik* gene is located on the Chr16. If the knockout mice are crossed with other mice strains to obtain double 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)

4932438H23Rik RIKEN cDNA 4932438H23 gene [*Mus musculus* (house mouse)]

Gene ID: 74387, updated on 14-Jun-2019

Summary

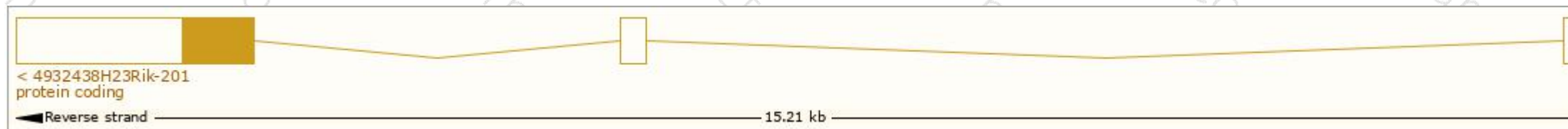
Official Symbol	4932438H23Rik provided by MGI
Official Full Name	RIKEN cDNA 4932438H23 gene provided by MGI
Primary source	MGI:MGI:1921637
See related	Ensembl:ENSMUSG00000039851
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI550392; 4931406G06Rik
Expression	Biased expression in testis adult (RPKM 4.0), genital fat pad adult (RPKM 1.3) and 1 other tissue See more
Orthologs	human all

Transcript information (Ensembl)

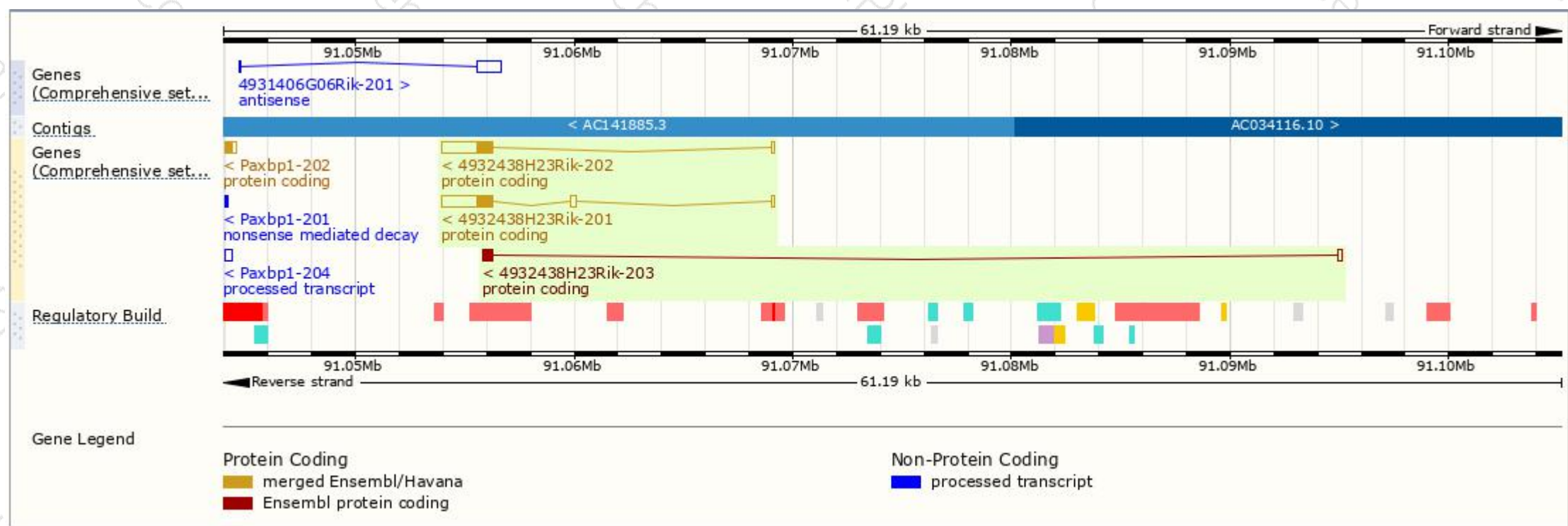
The gene has 3 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
4932438H23Rik-201	ENSMUST00000035689.7	2684	230aa	Protein coding	CCDS28322	Q9D4G1	TSL:1 GENCODE basic APPRIS P1
4932438H23Rik-202	ENSMUST00000114076.1	2436	230aa	Protein coding	CCDS28322	Q9D4G1	TSL:1 GENCODE basic APPRIS P1
4932438H23Rik-203	ENSMUST00000146047.1	600	136aa	Protein coding	-	D3Z4P0	CDS 3' incomplete TSL:3

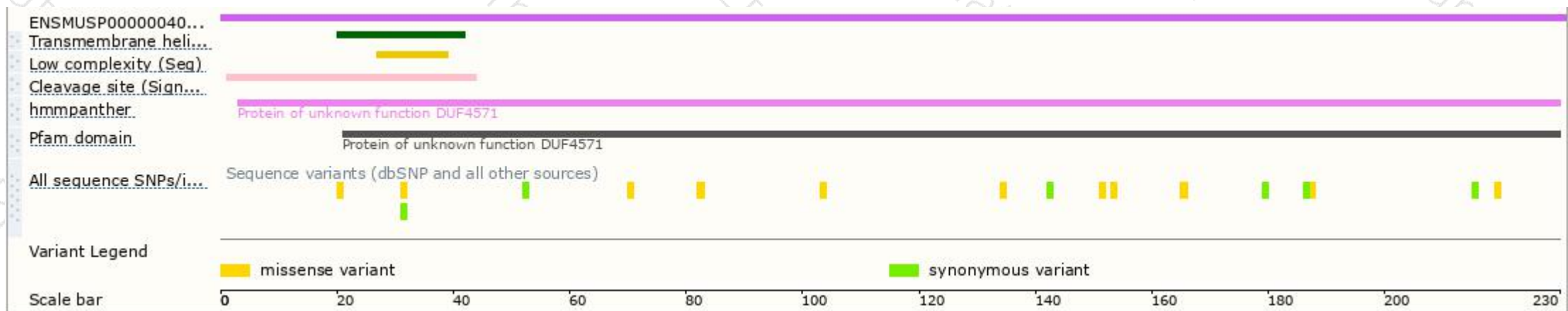
The strategy is based on the design of *4932438H23Rik-201* transcript, The transcription is shown below



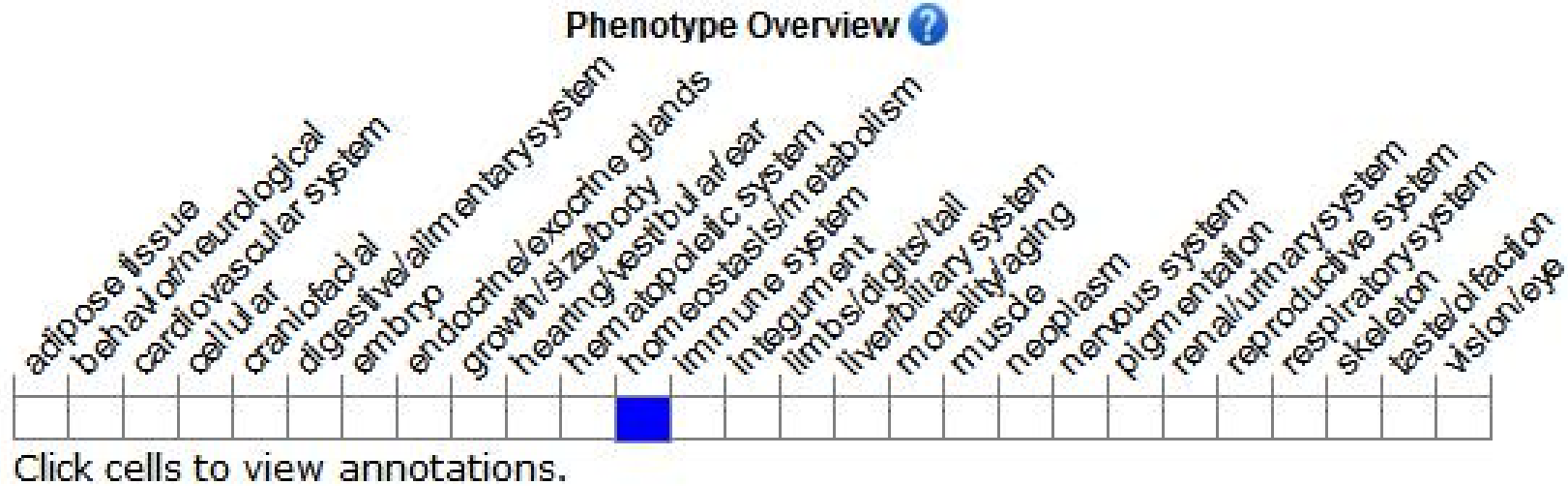
Genomic location distribution



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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