

***Twistnb* Cas9-KO Strategy**

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Project Overview

Project Name

Twistnb

Project type

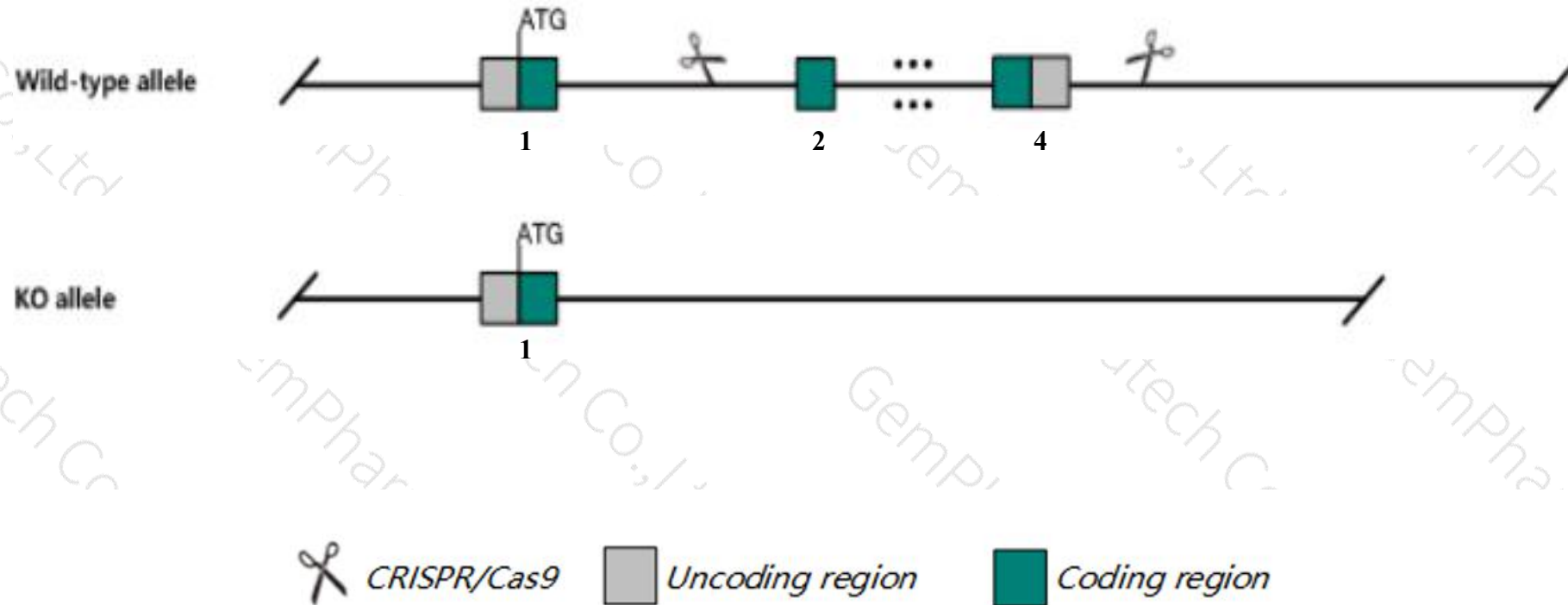
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Twistnb* gene has 4 transcripts. According to the structure of *Twistnb* gene, exon2-exon4 of *Twistnb*-201 (ENSMUST00000020877.8) transcript is recommended as the knockout region. The region contains most 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 *Twistnb* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Twistnb* gene is located on the Chr12. 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.

Twistnb twist basic helix-loop-helix transcription factor 1 neighbor [Mus musculus (house mouse)]

Gene ID: 28071, updated on 13-Mar-2020

Summary



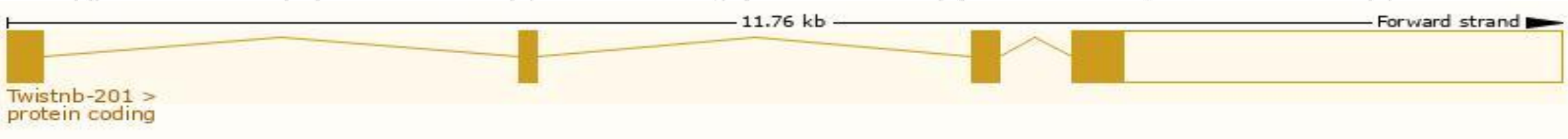
Official Symbol	Twistnb provided by MGI
Official Full Name	twist basic helix-loop-helix transcription factor 1 neighbor provided by MGI
Primary source	MGI:MGI:106292
See related	Ensembl:ENSMUSG00000020561
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2410173G11, 2810024J17Rik, D16Wsu83e
Expression	Ubiquitous expression in ovary adult (RPKM 9.0), adrenal adult (RPKM 6.8) and 28 other tissues See more
Orthologs	human all

Transcript information Ensembl

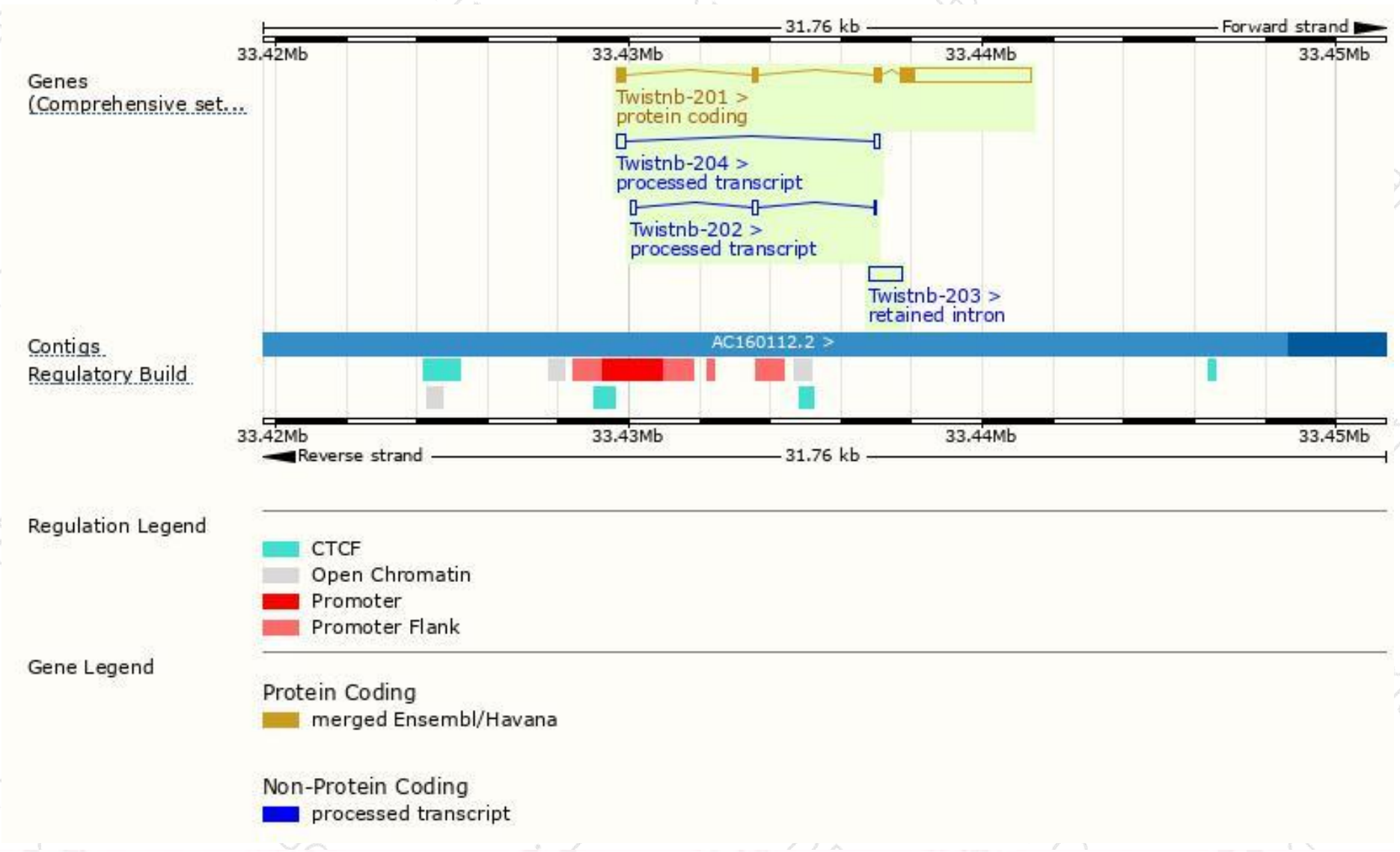
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Twistnb-201	ENSMUST00000020877.8	4325	330aa	Protein coding	CCDS25877	B2RT77 Q78WZ7	TSL:1 GENCODE basic APPRIS P1
Twistnb-204	ENSMUST00000219769.1	405	No protein	Processed transcript	-	-	TSL:2
Twistnb-202	ENSMUST00000218748.1	316	No protein	Processed transcript	-	-	TSL:5
Twistnb-203	ENSMUST00000219758.1	935	No protein	Retained intron	-	-	TSL:NA

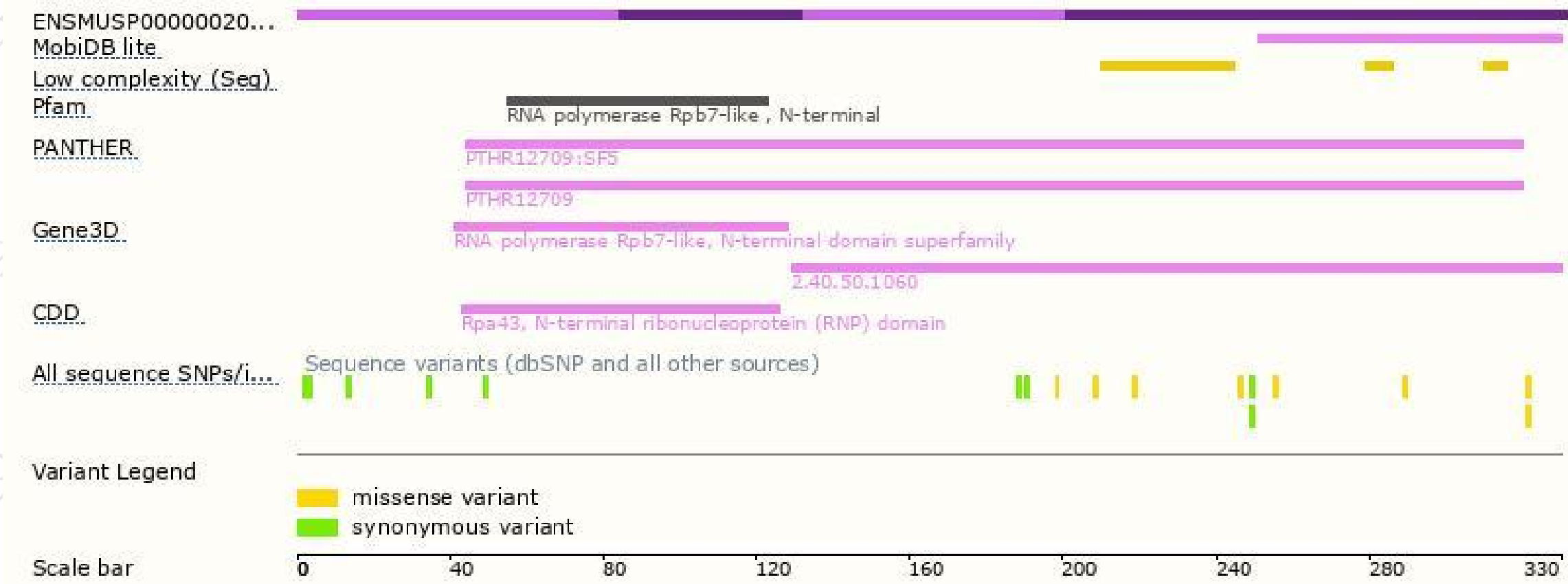
The strategy is based on the design of *Twistnb-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



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

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