

Wnt2b Cas9-KO Strategy

Designer:

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Project Overview

Project Name

Wnt2b

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Wnt2b* gene. The schematic diagram is as follows:



- The *Wnt2b* gene has 2 transcripts. According to the structure of *Wnt2b* gene, exon2 of *Wnt2b-201* (ENSMUST00000029429.5) transcript is recommended as the knockout region. The region contains 221bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Wnt2b* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Mice homozygous for a knock-out allele exhibit no discernable phenotype.
- The *Wnt2b* 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)

Wnt2b wingless-type MMTV integration site family, member 2B [Mus musculus (house mouse)]

Gene ID: 22414, updated on 9-Apr-2019

Summary



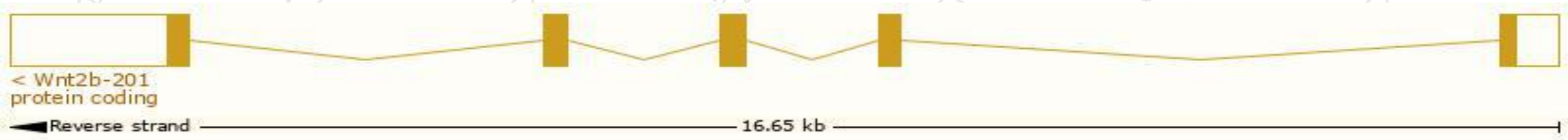
Official Symbol	Wnt2b provided by MGI
Official Full Name	wingless-type MMTV integration site family, member 2B provided by MGI
Primary source	MGI:MGI:1261834
See related	Ensembl:ENSMUSG000000027840
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Wnt13
Expression	Broad expression in ovary adult (RPKM 10.5), adrenal adult (RPKM 7.2) and 23 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

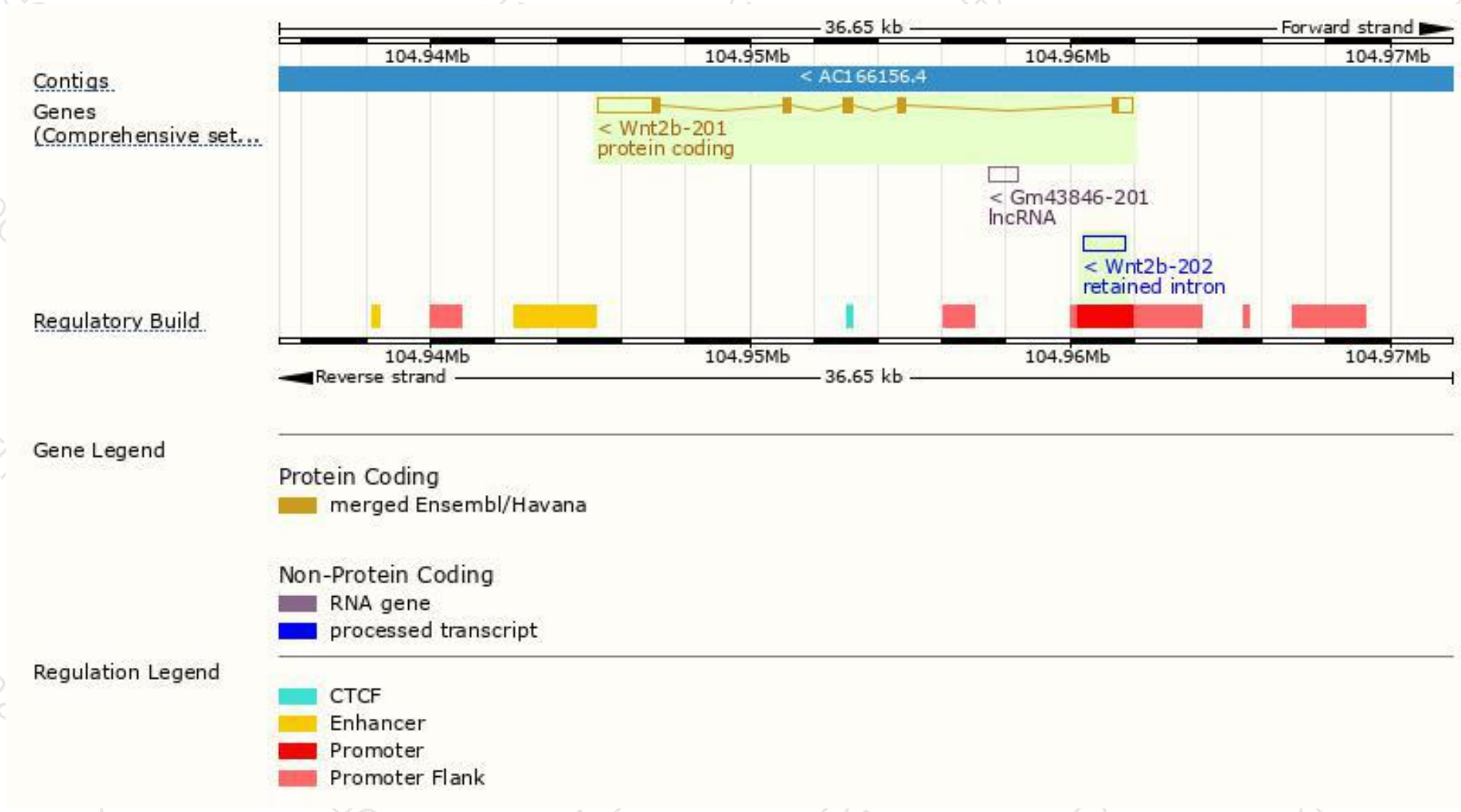
The gene has 2 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wnt2b-201	ENSMUST00000029429.5	3318	389aa	Protein coding	CCDS17706	O70283	TSL:1 GENCODE basic APPRIS P1
Wnt2b-202	ENSMUST00000198108.1	1308	No protein	Retained intron	-	-	TSL:NA

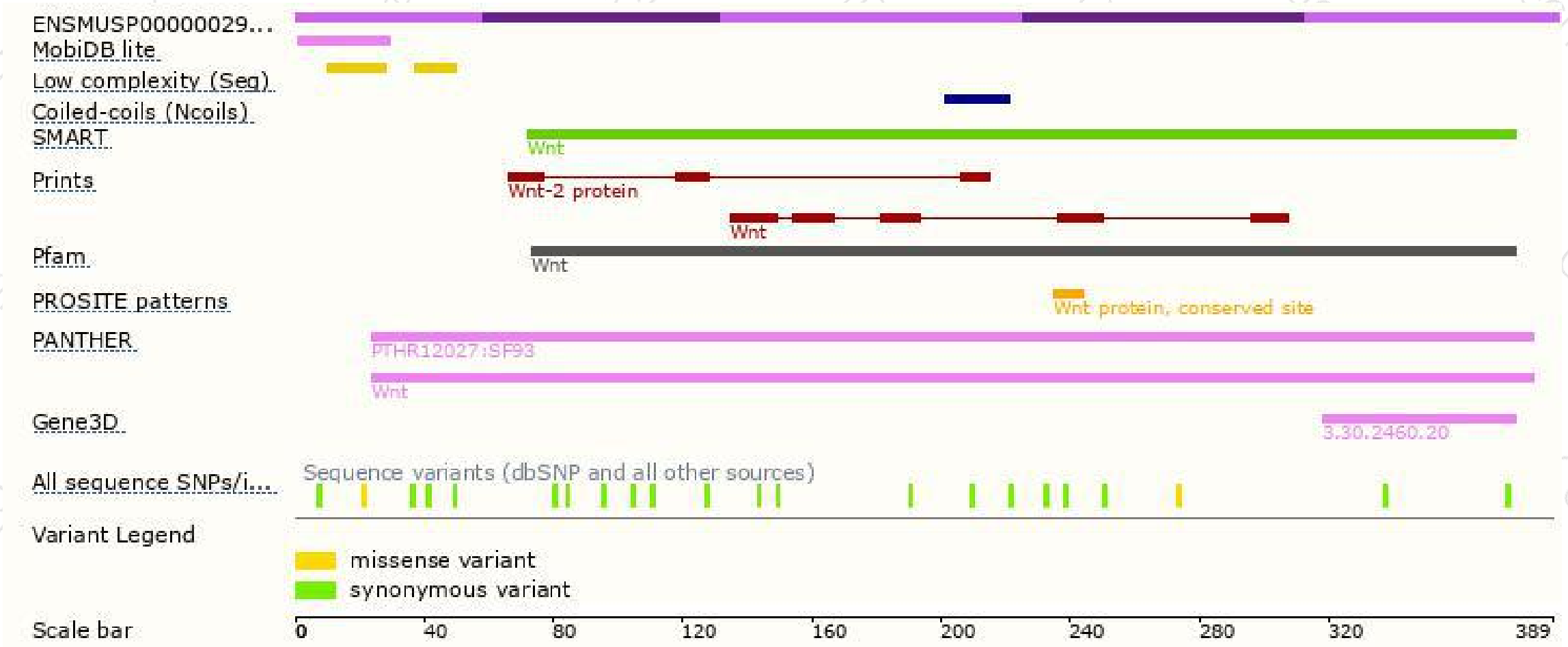
The strategy is based on the design of *Wnt2b-201* transcript,The transcription is shown below



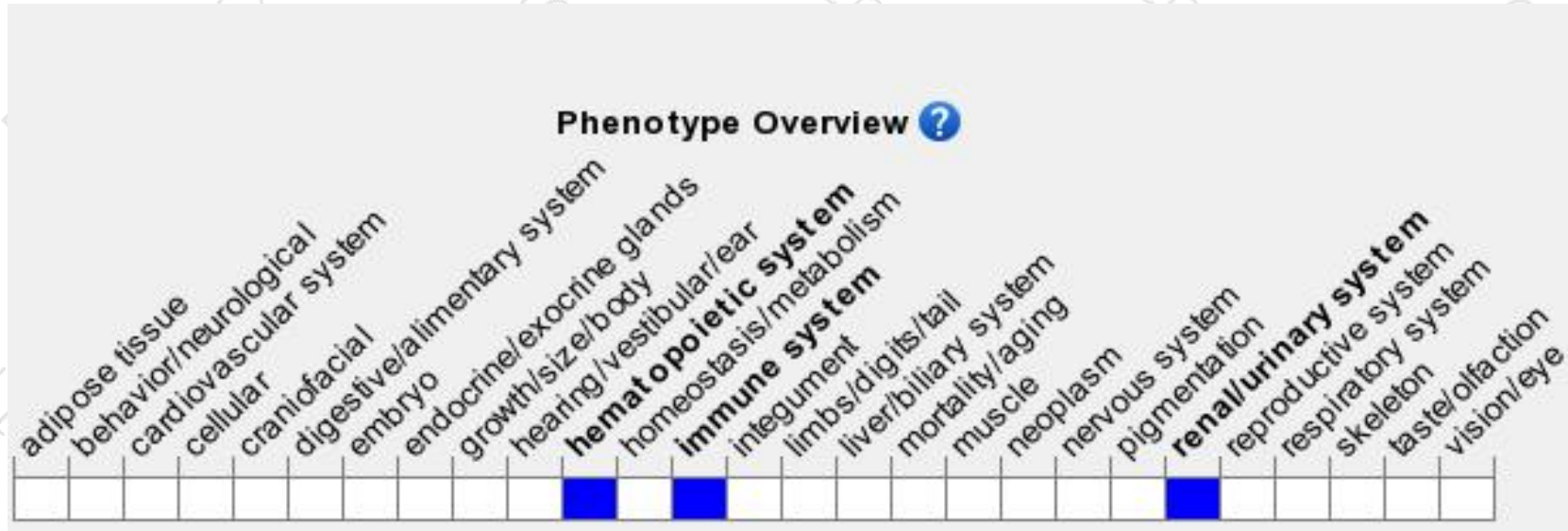
Genomic location distribution



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/>).

According to the existing MGI data, Mice homozygous for a knock-out allele exhibit no discernable phenotype.

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

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