

Adnp2 Cas9-KO Strategy

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Reviewer:

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Design Date:

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Project Overview

Project Name

Adnp2

Project type

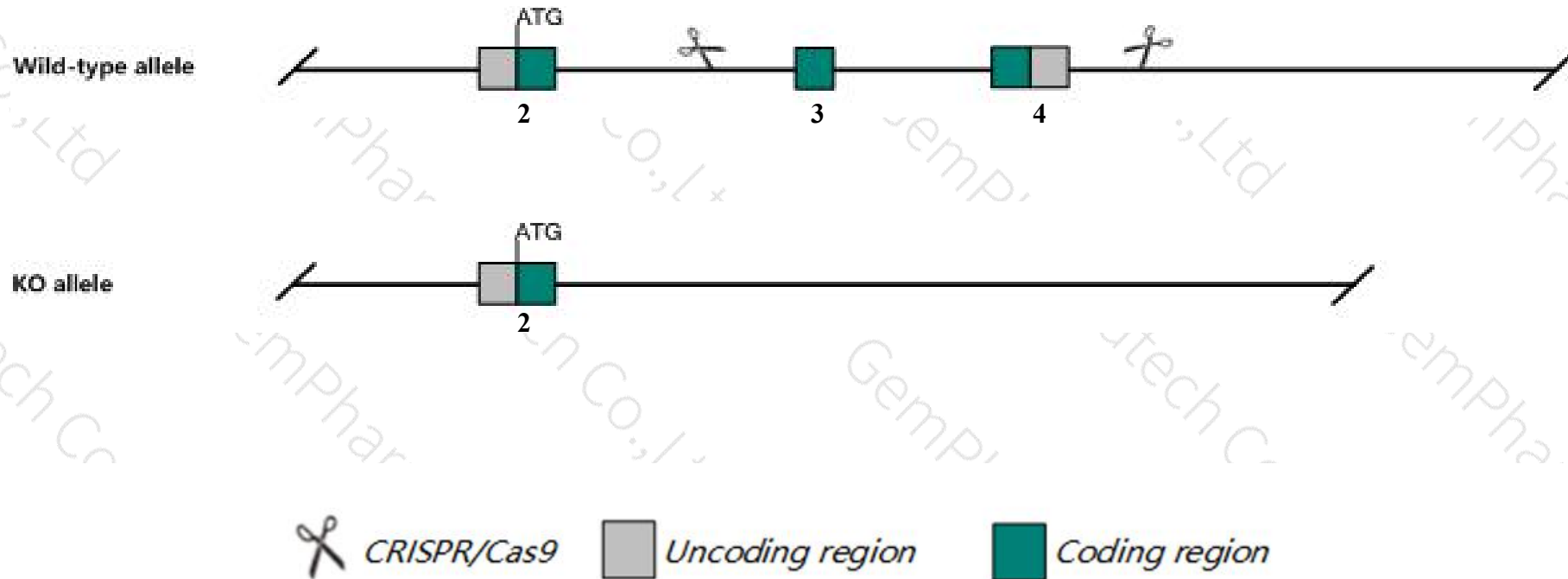
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Adnp2* gene. The schematic diagram is as follows:



- The *Adnp2* gene has 1 transcript. According to the structure of *Adnp2* gene, exon3-exon4 of *Adnp2-201* (ENSMUST00000066743.10) 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 *Adnp2* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Adnp2* gene is located on the Chr18. 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)

Adnp2 ADNP homeobox 2 [*Mus musculus* (house mouse)]

Gene ID: 240442, updated on 12-Aug-2019

Summary

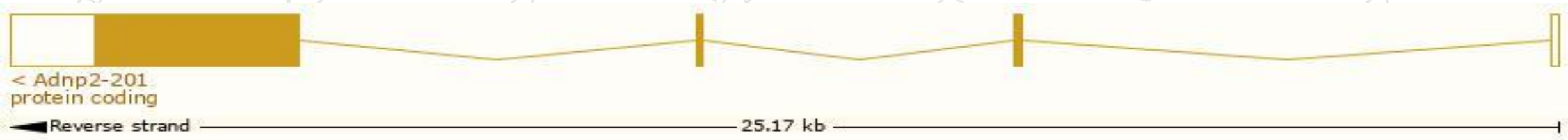
Official Symbol	Adnp2 provided by MGI
Official Full Name	ADNP homeobox 2 provided by MGI
Primary source	MGI:MGI:2448562
See related	Ensembl:ENSMUSG00000053950
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Zfp508; BC024969; Kiaa0863; mKIAA0863; 8430420L05Rik
Expression	Ubiquitous expression in ovary adult (RPKM 8.9), placenta adult (RPKM 5.7) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

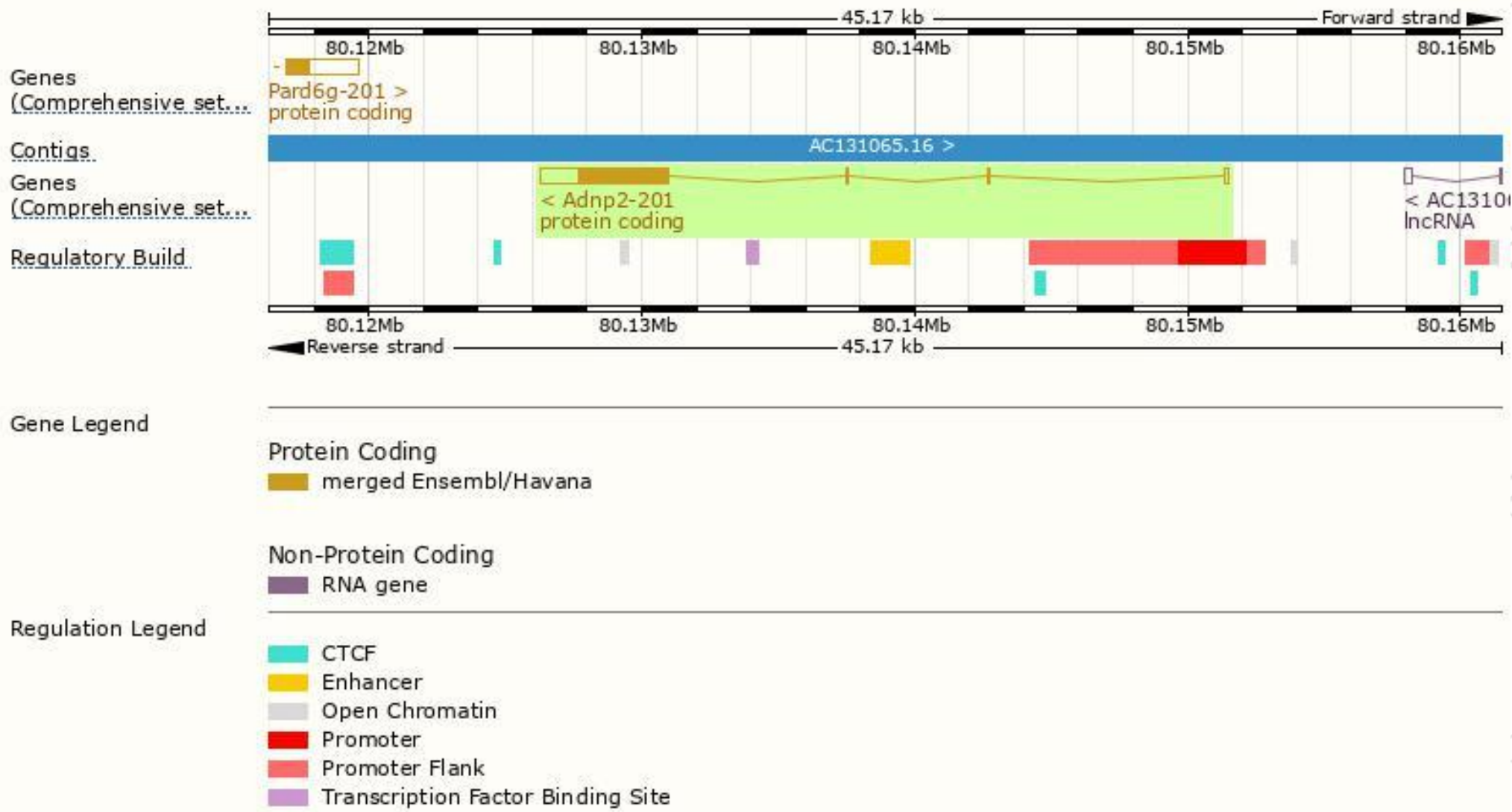
The gene has 1 transcript, and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Adnp2-201	ENSMUST00000066743.10	5012	1165aa	Protein coding	CCDS50332	Q8CHC8	TSL:1 GENCODE basic APPRIS P1

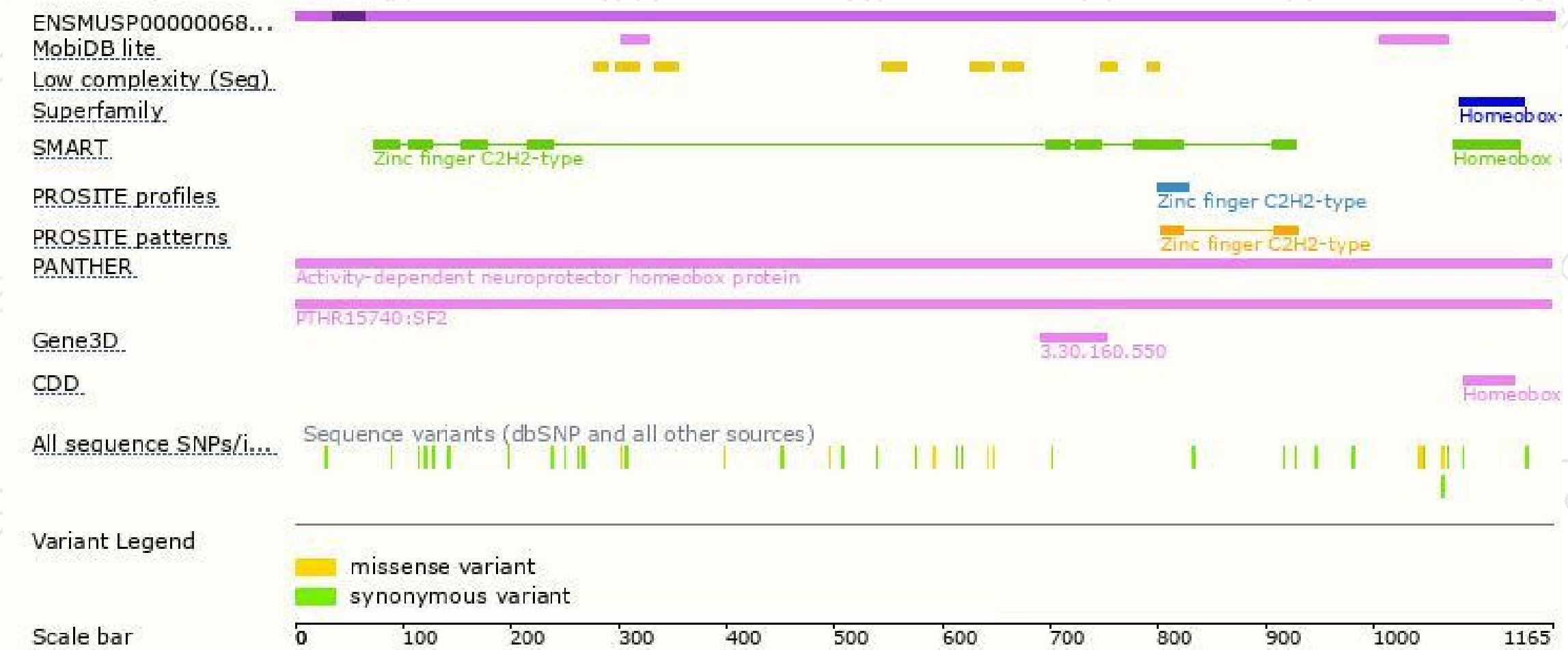
The strategy is based on the design of *Adnp2-201* transcript, The transcription is shown below



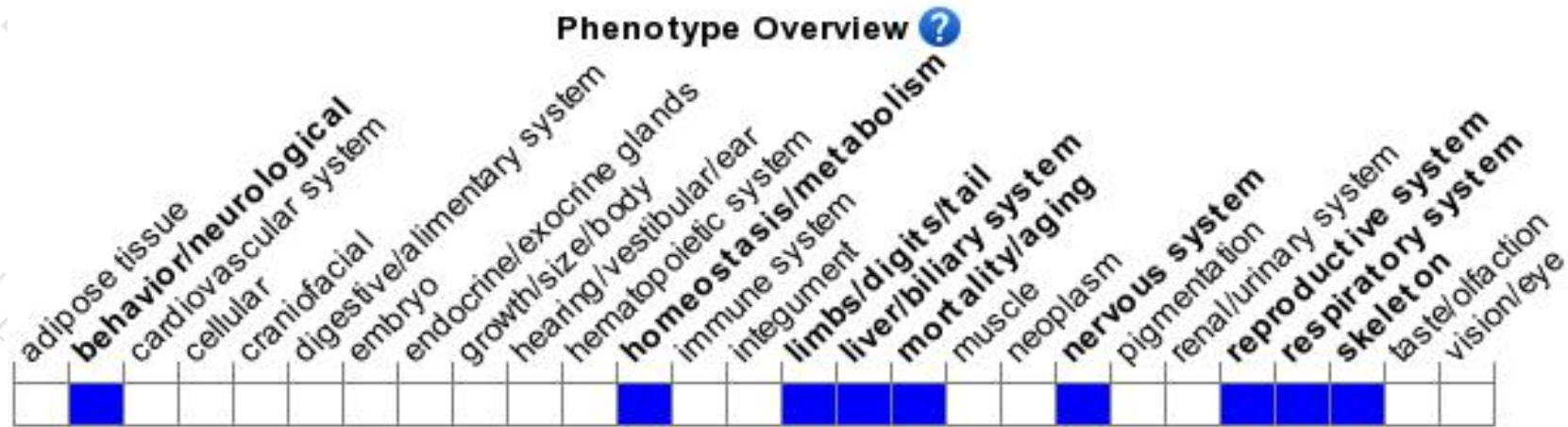
Genomic location distribution



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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