

Med25 Cas9-KO Strategy

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Project Overview

Project Name

Med25

Project type

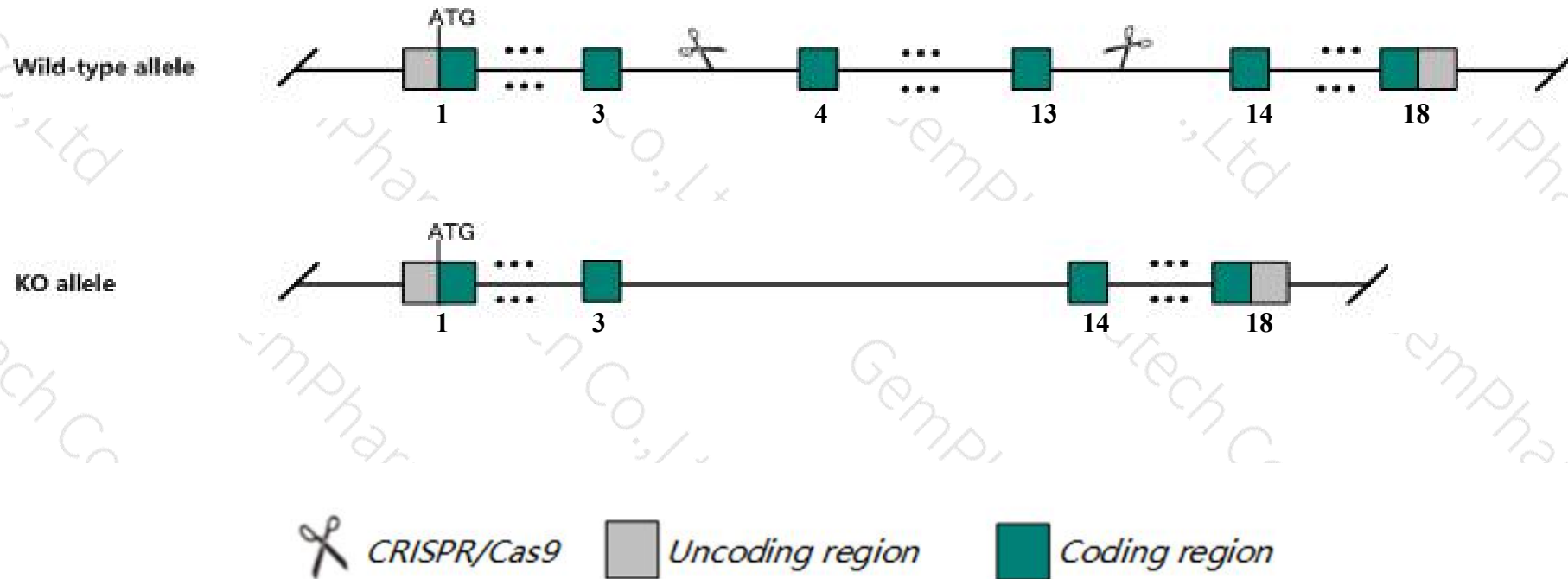
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Med25* gene. The schematic diagram is as follows:



- The *Med25* gene has 14 transcripts. According to the structure of *Med25* gene, exon4-exon13 of *Med25-201* (ENSMUST00000003049.7) transcript is recommended as the knockout region. The region contains 1177bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Med25* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Med25* gene is located on the Chr7. 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.
- Transcript *Med25-203&204&212* may not be affected.
- 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)

Med25 mediator complex subunit 25 [Mus musculus (house mouse)]

Gene ID: 75613, updated on 31-Jan-2019

Summary



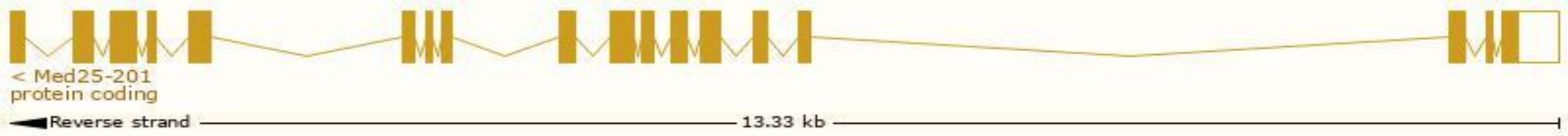
Official Symbol	Med25 provided by MGI
Official Full Name	mediator complex subunit 25 provided by MGI
Primary source	MGI:MGI:1922863
See related	Ensembl:ENSMUSG000000002968
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2610034E13Rik, 2610529E18Rik, ESTM2
Expression	Ubiquitous expression in adrenal adult (RPKM 84.2), ovary adult (RPKM 55.9) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

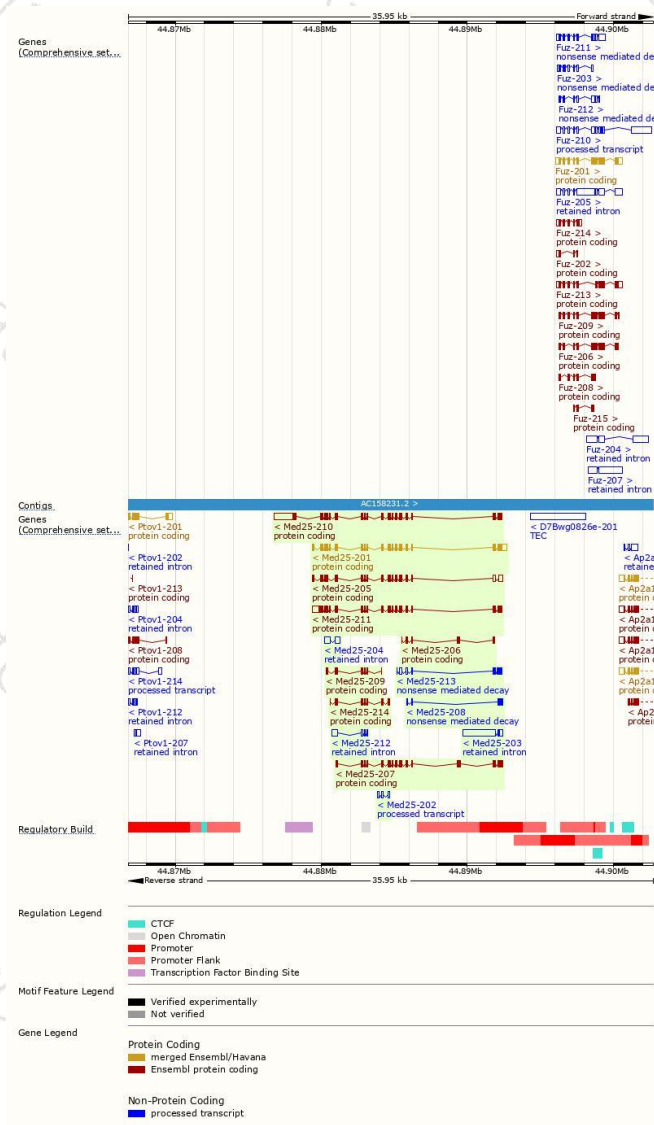
The gene has 14 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Med25-201	ENSMUST0000003049.7	2619	745aa	Protein coding	CCDS21220	Q8VCB2	TSL:1 GENCODE basic
Med25-205	ENSMUST00000207278.1	2287	618aa	Protein coding	CCDS85291	Q8VCB2	TSL:1 GENCODE basic
Med25-210	ENSMUST00000208253.1	3693	801aa	Protein coding	-	A0A140LHG7	TSL:1 GENCODE basic APPRIS P1
Med25-211	ENSMUST00000208551.1	2678	742aa	Protein coding	-	A0A140LHQ0	TSL:2 GENCODE basic
Med25-207	ENSMUST00000207654.1	1840	599aa	Protein coding	-	A0A140LIH0	CDS 3' incomplete TSL:1
Med25-214	ENSMUST00000209191.1	726	242aa	Protein coding	-	A0A140LI51	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:3
Med25-209	ENSMUST00000207848.2	616	205aa	Protein coding	-	A0A140LIL1	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:5
Med25-206	ENSMUST00000207490.1	493	164aa	Protein coding	-	A0A140LHI1	5' and 3' truncations in transcript evidence prevent annotation of the start and the end of the CDS. CDS 5' and 3' incomplete TSL:5
Med25-213	ENSMUST00000208556.1	794	103aa	Nonsense mediated decay	-	A0A140LHM8	TSL:3
Med25-208	ENSMUST00000207788.1	372	69aa	Nonsense mediated decay	-	A0A140LJ84	TSL:3
Med25-202	ENSMUST00000123130.2	378	No protein	Processed transcript	-	-	TSL:5
Med25-203	ENSMUST00000207196.1	2427	No protein	Retained intron	-	-	TSL:2
Med25-204	ENSMUST00000207206.1	785	No protein	Retained intron	-	-	TSL:1
Med25-212	ENSMUST00000208552.2	645	No protein	Retained intron	-	-	TSL:2

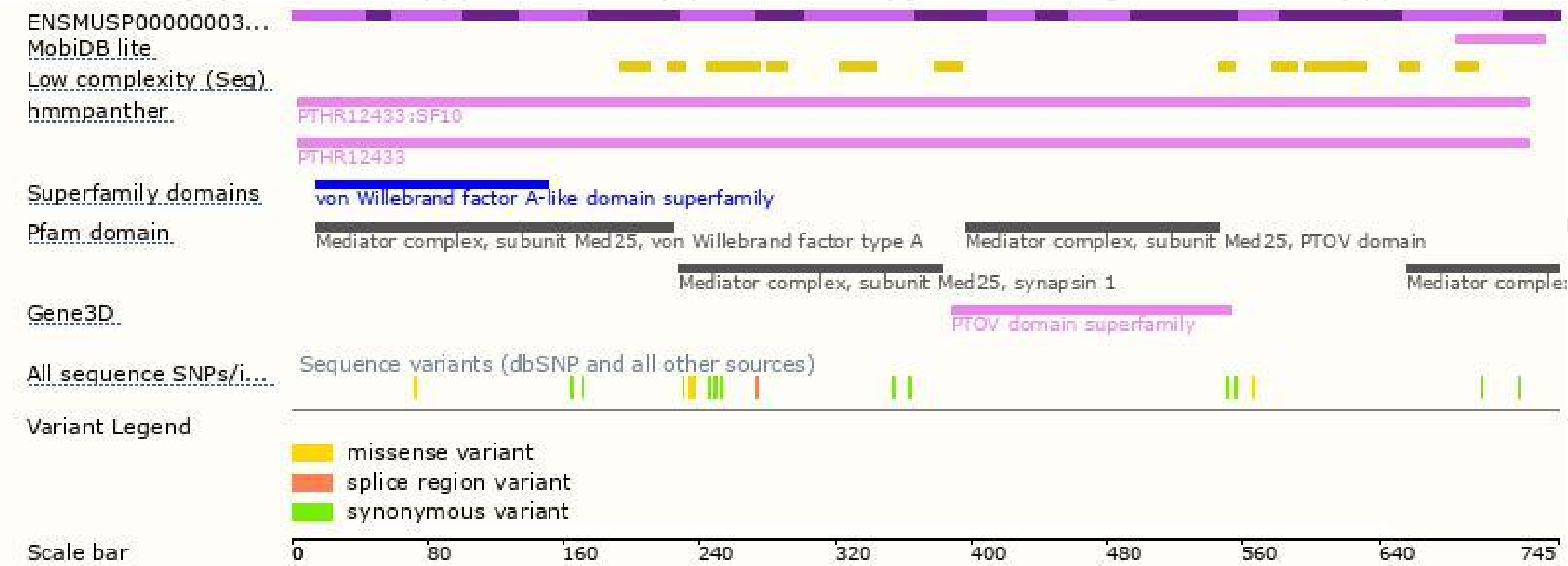
The strategy is based on the design of *Med25-201* transcript,The transcription is shown below



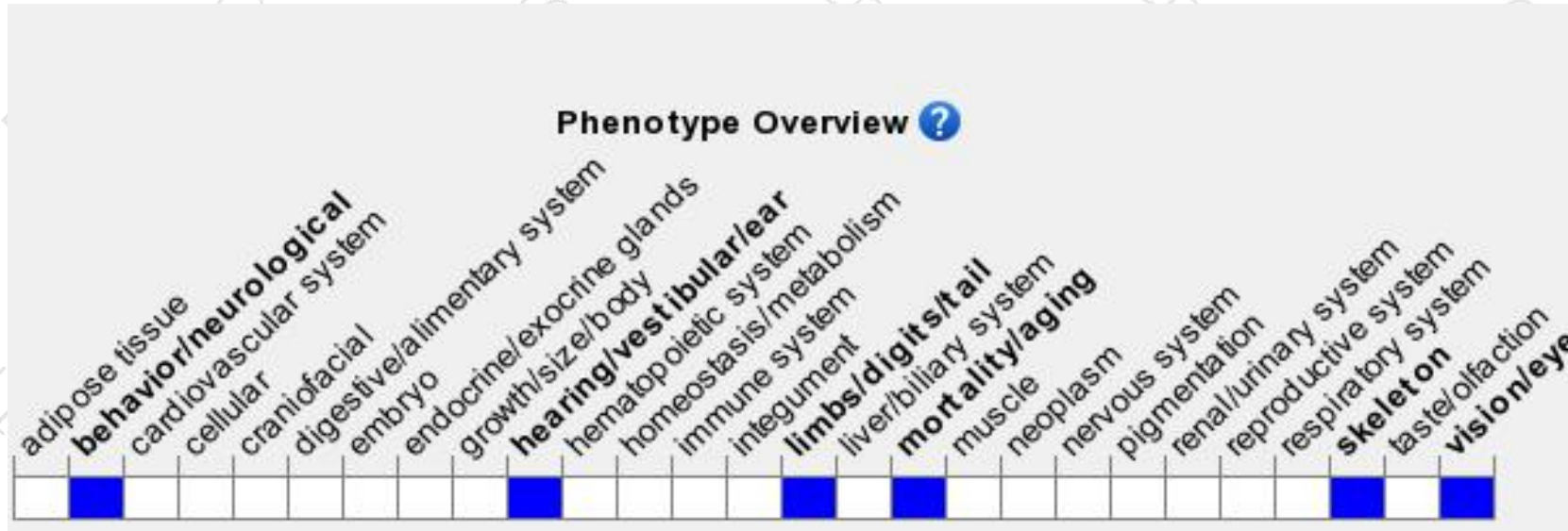
Genomic location distribution



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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