

Htatip2 Cas9-KO Strategy

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Project Overview

Project Name

Htatip2

Project type

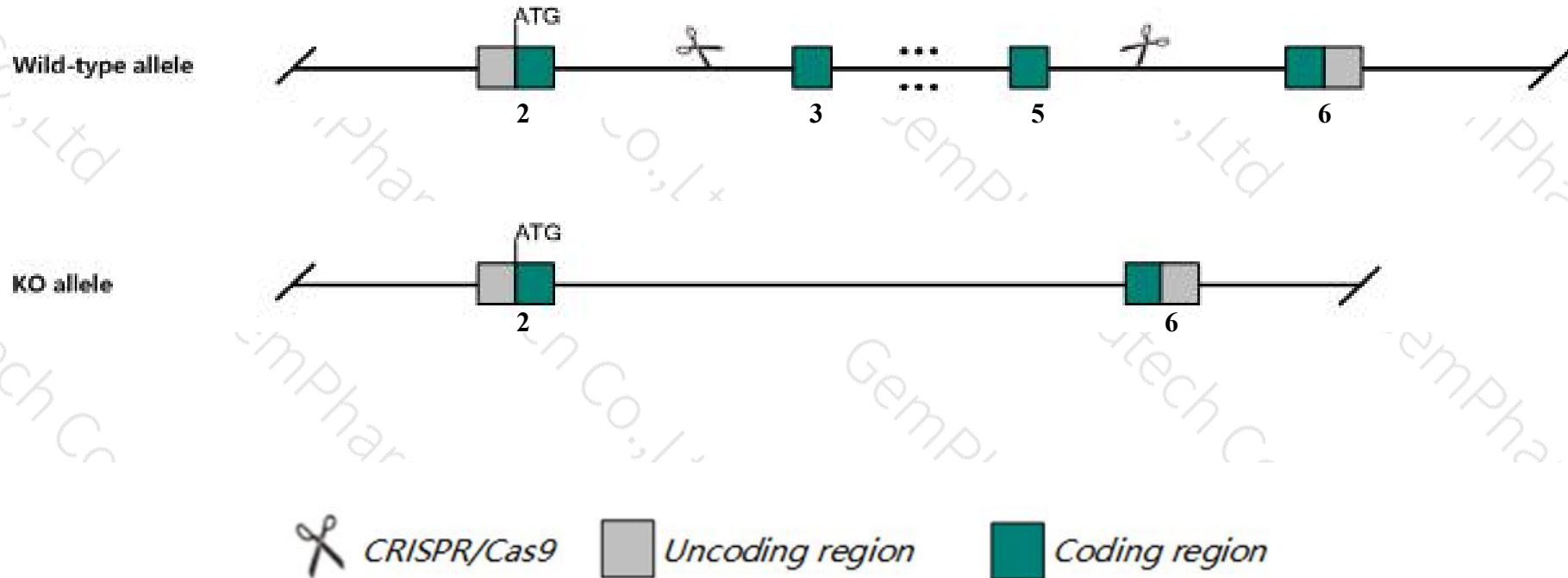
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Htatip2* gene. The schematic diagram is as follows:



- The *Htatip2* gene has 3 transcripts. According to the structure of *Htatip2* gene, exon3-exon5 of *Htatip2-201* (ENSMUST00000085272.6) transcript is recommended as the knockout region. The region contains 308bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Htatip2* gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Inactivation of this gene increases susceptibility to tumorigenesis.
- The *Htatip2* 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.
- 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)

Htatip2 HIV-1 Tat interactive protein 2 [Mus musculus (house mouse)]

Gene ID: 53415, updated on 31-Jan-2019

Summary



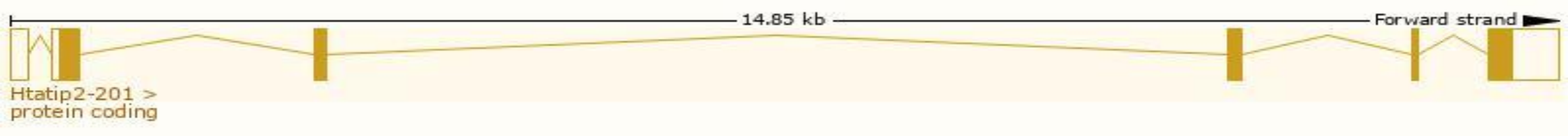
Official Symbol	Htatip2 provided by MGI
Official Full Name	HIV-1 Tat interactive protein 2 provided by MGI
Primary source	MGI:MGI:1859271
See related	Ensembl:ENSMUSG00000039745
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AW111545, Cc3, Tip30
Expression	Ubiquitous expression in bladder adult (RPKM 15.4), placenta adult (RPKM 12.5) and 25 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

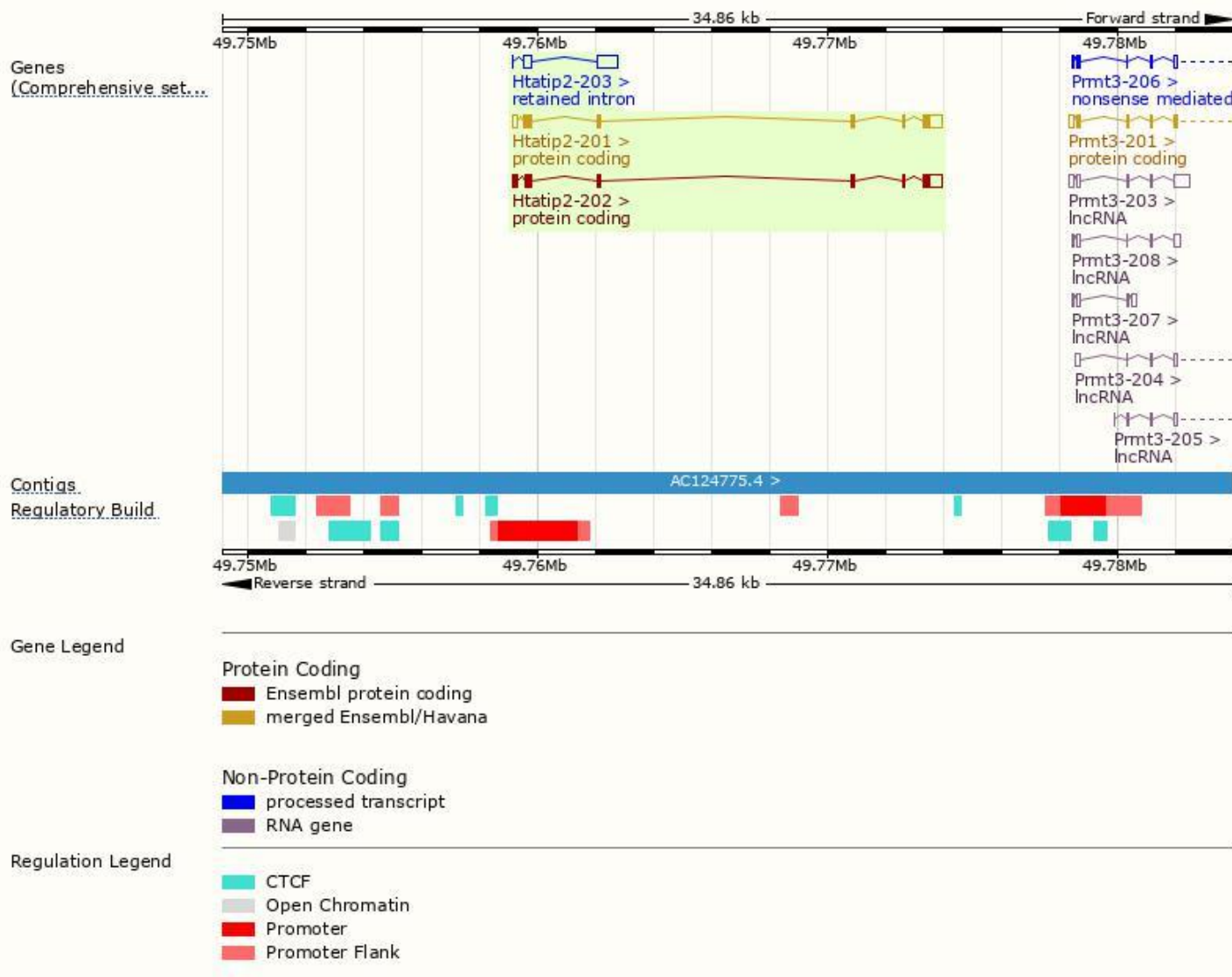
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Htati2-201	ENSMUST00000085272.6	1418	242aa	Protein coding	CCDS52260	Q9Z2G9	TSL:1 GENCODE basic APPRIS P3
Htati2-202	ENSMUST000000207895.1	1338	275aa	Protein coding	CCDS85310	Q3U816	TSL:1 GENCODE basic APPRIS ALT2
Htati2-203	ENSMUST000000208048.1	983	No protein	Retained intron	-	-	TSL:1

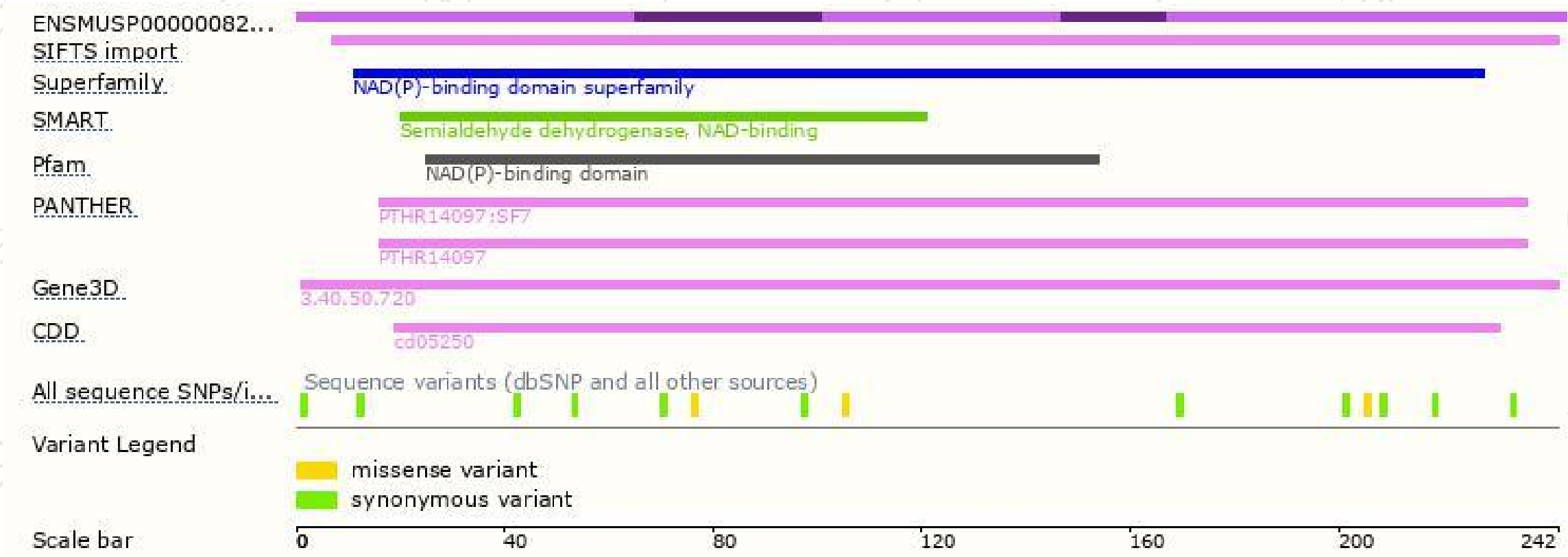
The strategy is based on the design of *Htati2-201* transcript,The transcription is shown below



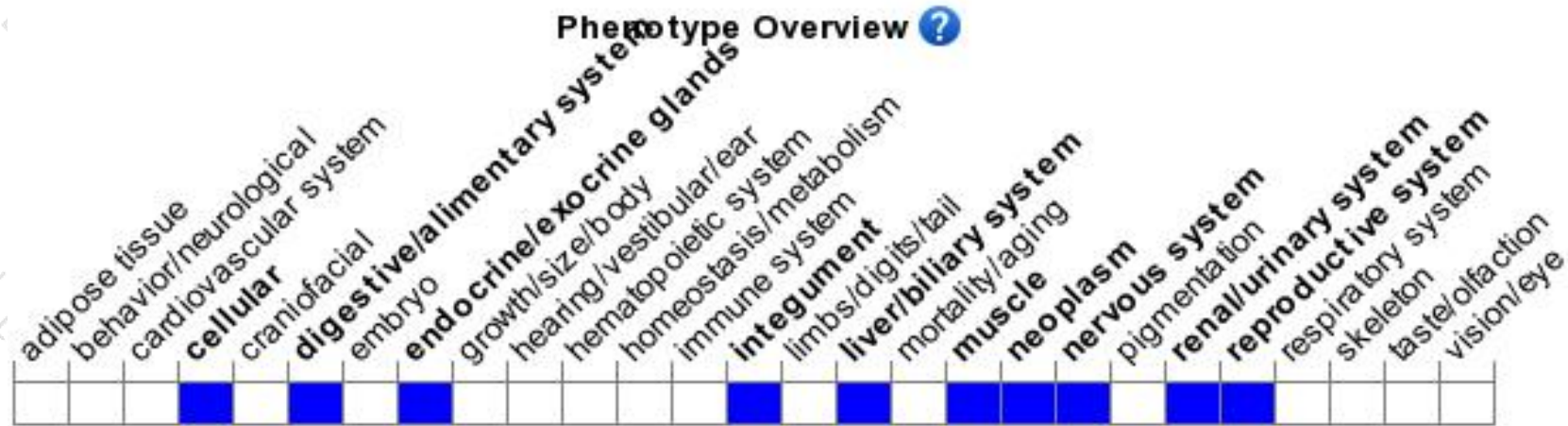
Genomic location distribution



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, Inactivation of this gene increases susceptibility to tumorigenesis.

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

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