

Cenpt Cas9-KO Strategy

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Project Overview

Project Name

Cenpt

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

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



- The *Cenpt* gene has 10 transcripts. According to the structure of *Cenpt* gene, exon2-exon7 of *Cenpt-201* (ENSMUST00000040776.5) transcript is recommended as the knockout region. The region contains 605bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Cenpt* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Cenpt* gene is located on the Chr8. 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)

Cenpt centromere protein T [Mus musculus (house mouse)]

Gene ID: 320394, updated on 31-Jan-2019

Summary



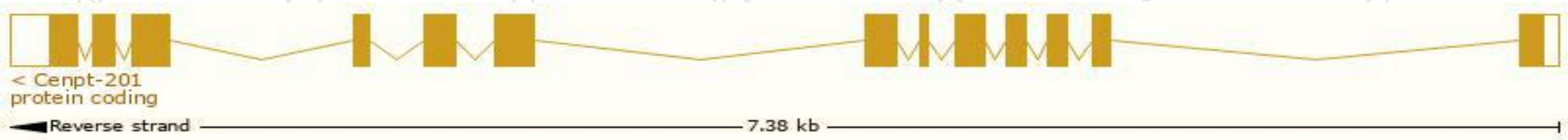
Official Symbol	Cenpt provided by MGI
Official Full Name	centromere protein T provided by MGI
Primary source	MGI:MGI:2443939
See related	Ensembl:ENSMUSG00000036672
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	G630055P03Rik
Expression	Ubiquitous expression in CNS E14 (RPKM 19.8), limb E14.5 (RPKM 19.1) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

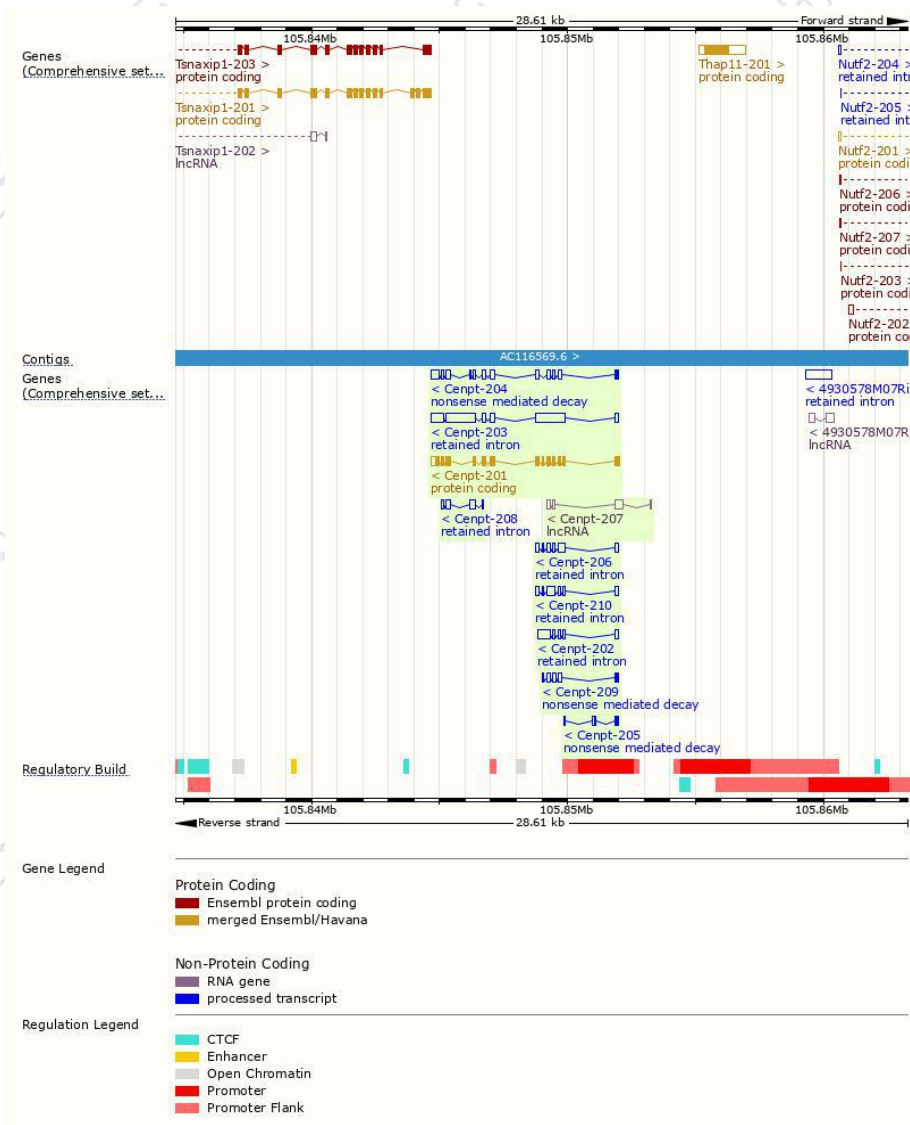
The gene has 10 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Cenpt-201	ENSMUST00000040776.5	1814	515aa	Protein coding	CCDS22615	Q3TJM4	TSL:1 GENCODE basic APPRIS P1
Cenpt-204	ENSMUST00000212431.1	1762	42aa	Nonsense mediated decay	-	A0A1D5RM35	TSL:2
Cenpt-209	ENSMUST00000212839.1	567	40aa	Nonsense mediated decay	-	A0A1D5RLB1	TSL:5
Cenpt-205	ENSMUST00000212552.1	348	43aa	Nonsense mediated decay	-	A0A1D5RMD0	TSL:3
Cenpt-203	ENSMUST00000212357.1	3281	No protein	Retained intron	-	-	TSL:2
Cenpt-202	ENSMUST00000212204.1	864	No protein	Retained intron	-	-	TSL:2
Cenpt-206	ENSMUST00000212625.1	853	No protein	Retained intron	-	-	TSL:3
Cenpt-210	ENSMUST00000212873.1	807	No protein	Retained intron	-	-	TSL:3
Cenpt-208	ENSMUST00000212803.1	562	No protein	Retained intron	-	-	TSL:5
Cenpt-207	ENSMUST00000212797.1	579	No protein	lncRNA	-	-	TSL:3

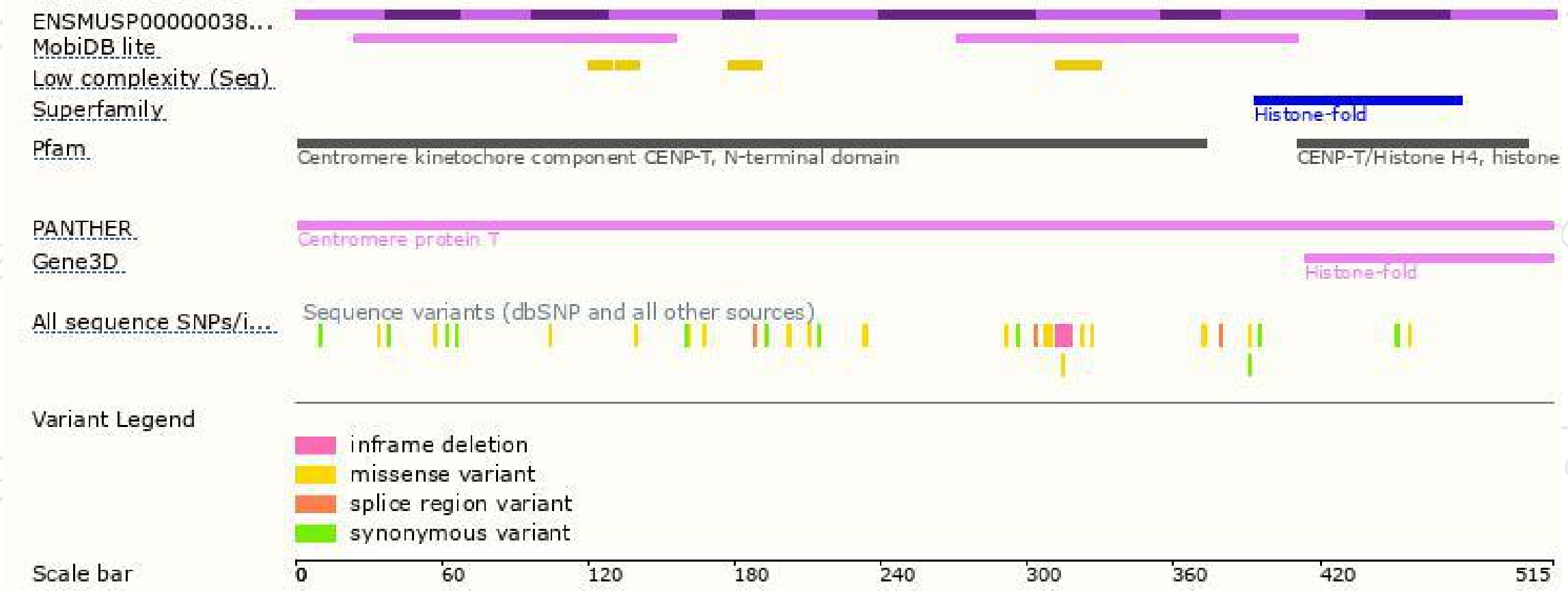
The strategy is based on the design of *Cenpt-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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