

Senp2 Cas9-KO Strategy

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Design Date:2019-09-25

Project Overview

Project Name

Senp2

Project type

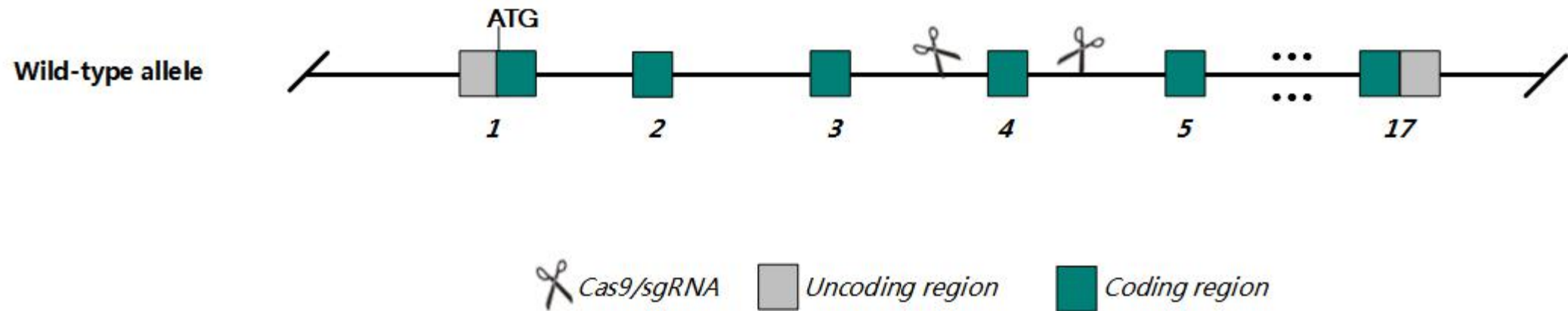
Cas9-KO

Strain background

C57BL/6N

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Senp2* gene. The schematic diagram is as follows:



- In this project we use CRISPR/Cas9 technology to modify *Senp2* gene. The brief process is as follows: sgRNA was transcribed in vitro. Cas9 and sgRNA were microinjected into the fertilized eggs of C57BL/6N mice. Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6N mice.

- According to MGI, Homozygous null mice are embryonic lethal due to placental defects resulting from abnormal trophoblast maturation.
- The *Senp2* gene is located on the Chr16, 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)

Senp2 SUMO/sentrin specific peptidase 2 [*Mus musculus* (house mouse)]

Gene ID: 75826, updated on 24-Sep-2019

Summary

Official Symbol Senp2 provided by [MGI](#)

Official Full Name SUMO/sentrin specific peptidase 2 provided by [MGI](#)

Primary source [MGI:MGI:1923076](#)

See related [Ensembl:ENSMUSG00000022855](#)

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 SuPr-1; Smt3ip2; AI646780; AW554757; mKIAA1331; 2310007L05Rik; 4930538C18Rik

Expression Ubiquitous expression in testis adult (RPKM 18.7), placenta adult (RPKM 14.0) and 28 other tissues [See more](#)

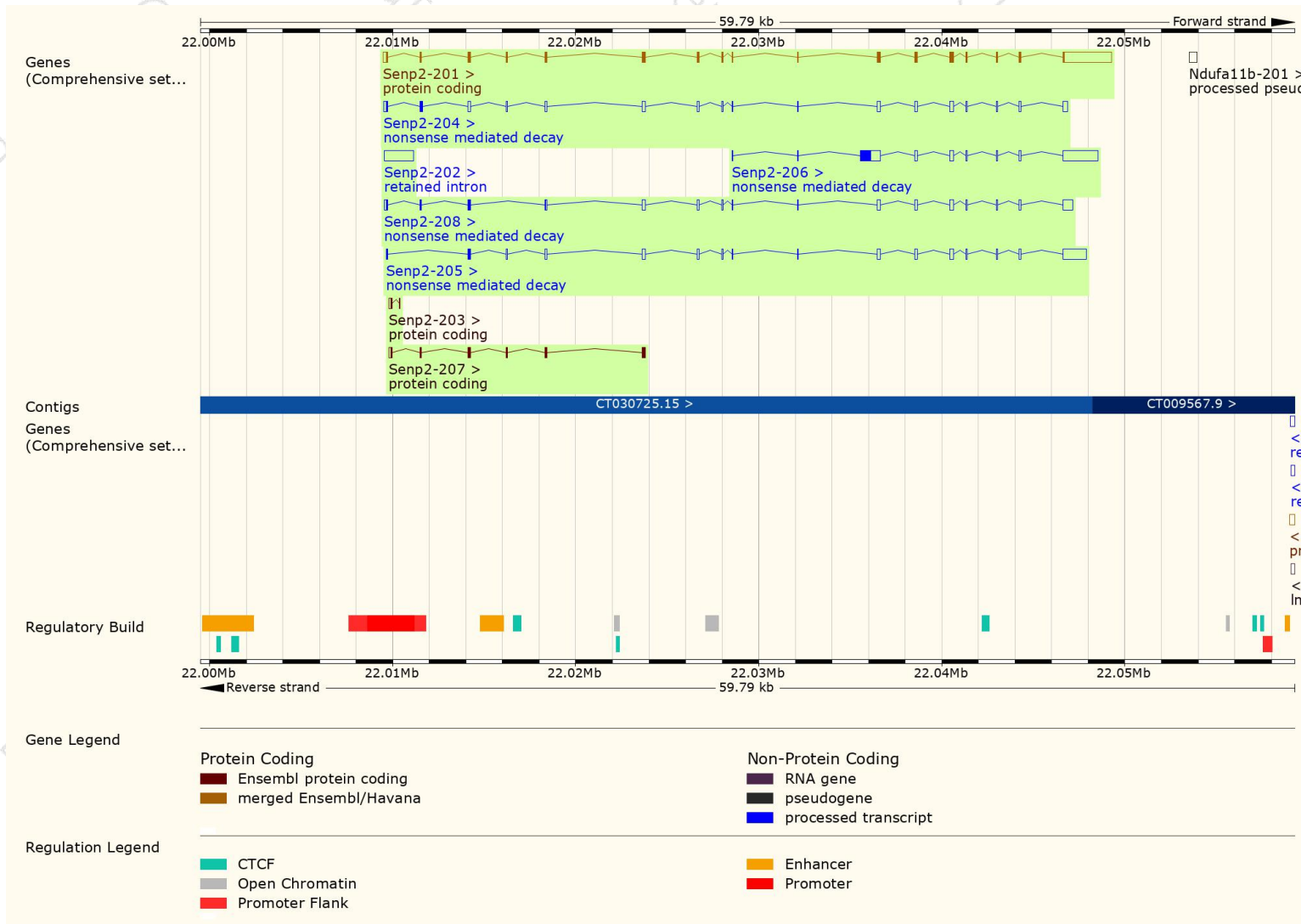
Orthologs [human](#) [all](#)

Transcript information (Ensembl)

The gene has 8 transcripts,all transcripts are shown below:

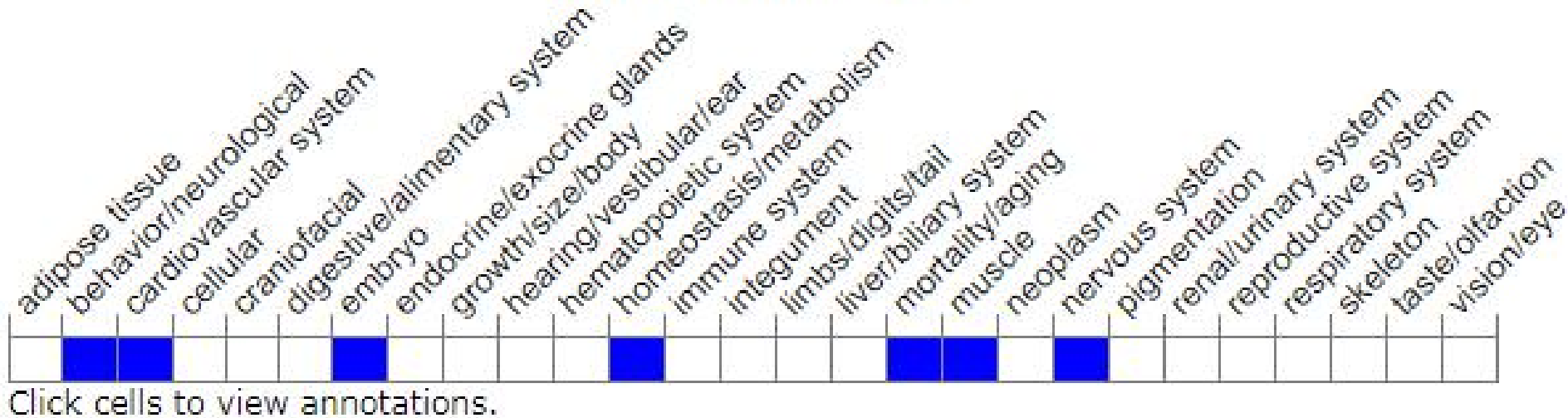
Name ▲	Transcript ID ▲	bp ▲	Protein ▲	Biotype ▲	CCDS ▲	UniProt ▲	Flags ▲
Senp2-201	ENSMUST00000023561.7	4499	588aa	Protein coding	CCDS28065	Q91ZX6	TSL:1 Gencode basic APPRIS P1
Senp2-202	ENSMUST000000231408.1	1605	No protein	Retained intron	-	-	-
Senp2-203	ENSMUST000000231632.1	181	29aa	Protein coding	-	A0A338P6Y3	CDS 3' incomplete
Senp2-204	ENSMUST000000231724.1	2135	63aa	Nonsense mediated decay	-	A0A338P6J8	-
Senp2-205	ENSMUST000000231798.1	2883	64aa	Nonsense mediated decay	-	A0A338P710	CDS 5' incomplete
Senp2-206	ENSMUST000000232263.1	3702	222aa	Nonsense mediated decay	-	A0A338P6M2	CDS 5' incomplete
Senp2-207	ENSMUST000000232534.1	683	198aa	Protein coding	-	A0A338P6A3	CDS 3' incomplete
Senp2-208	ENSMUST000000232679.1	2239	105aa	Nonsense mediated decay	-	A0A338P790	-

Genomic location distribution



Mouse phenotype description(MGI)

Phenotype Overview ?



Phenotypes affected by the gene are marked in blue. Data quoted from MGI database(<http://www.informatics.jax.org/>).

Homozygous null mice are embryonic lethal due to placental defects resulting from abnormal trophoblast maturation.

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

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