

Dnm3 Cas9-KO Strategy

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Design Date:

2020-3-16

Project Overview

Project Name

Dnm3

Project type

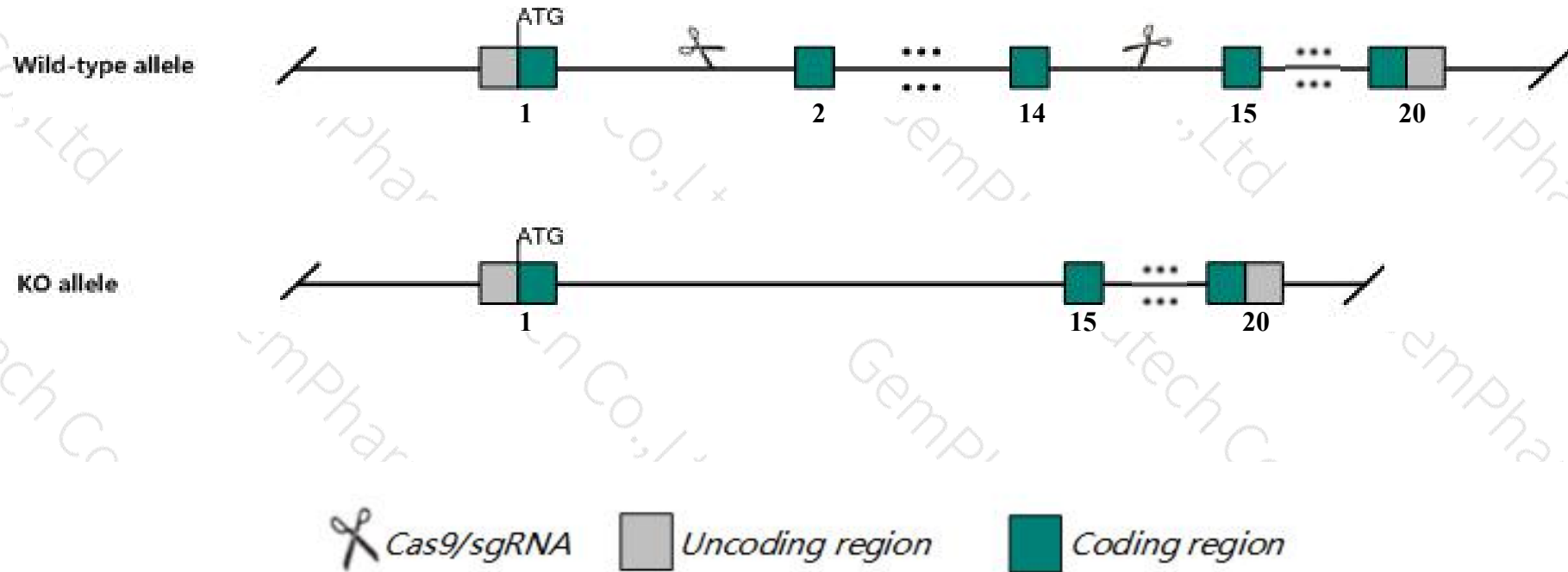
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Dnm3* gene. The schematic diagram is as follows:



Technical routes

- The *Dnm3* gene has 12 transcripts. According to the structure of *Dnm3* gene, exon2-exon14 of *Dnm3-201* (ENSMUST00000070330.13) transcript is recommended as the knockout region. The region contains 1498bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Dnm3* gene. The brief process is as follows: CRISPR/Cas9 system we

- According to the existing MGI data, Mice homozygous for a targeted allele are viable and fertile
- The *Dnm3* gene is located on the Chr1. 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)

Dnm3 dynamin 3 [*Mus musculus* (house mouse)]

Gene ID: 103967, updated on 13-Mar-2020

Summary

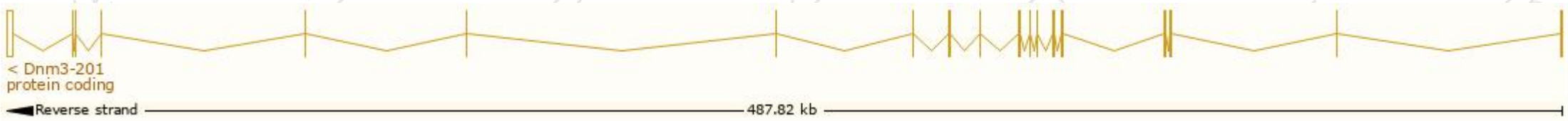
Official Symbol	Dnm3 provided by MGI
Official Full Name	dynamin 3 provided by MGI
Primary source	MGI:MGI:1341299
See related	Ensembl:ENSMUSG00000040265
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AW061159; Dyna III; mKIAA0820; C530045C17; 9630020E24Rik; B230343F03Rik
Expression	Biased expression in cerebellum adult (RPKM 19.2), CNS E18 (RPKM 12.1) and 7 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

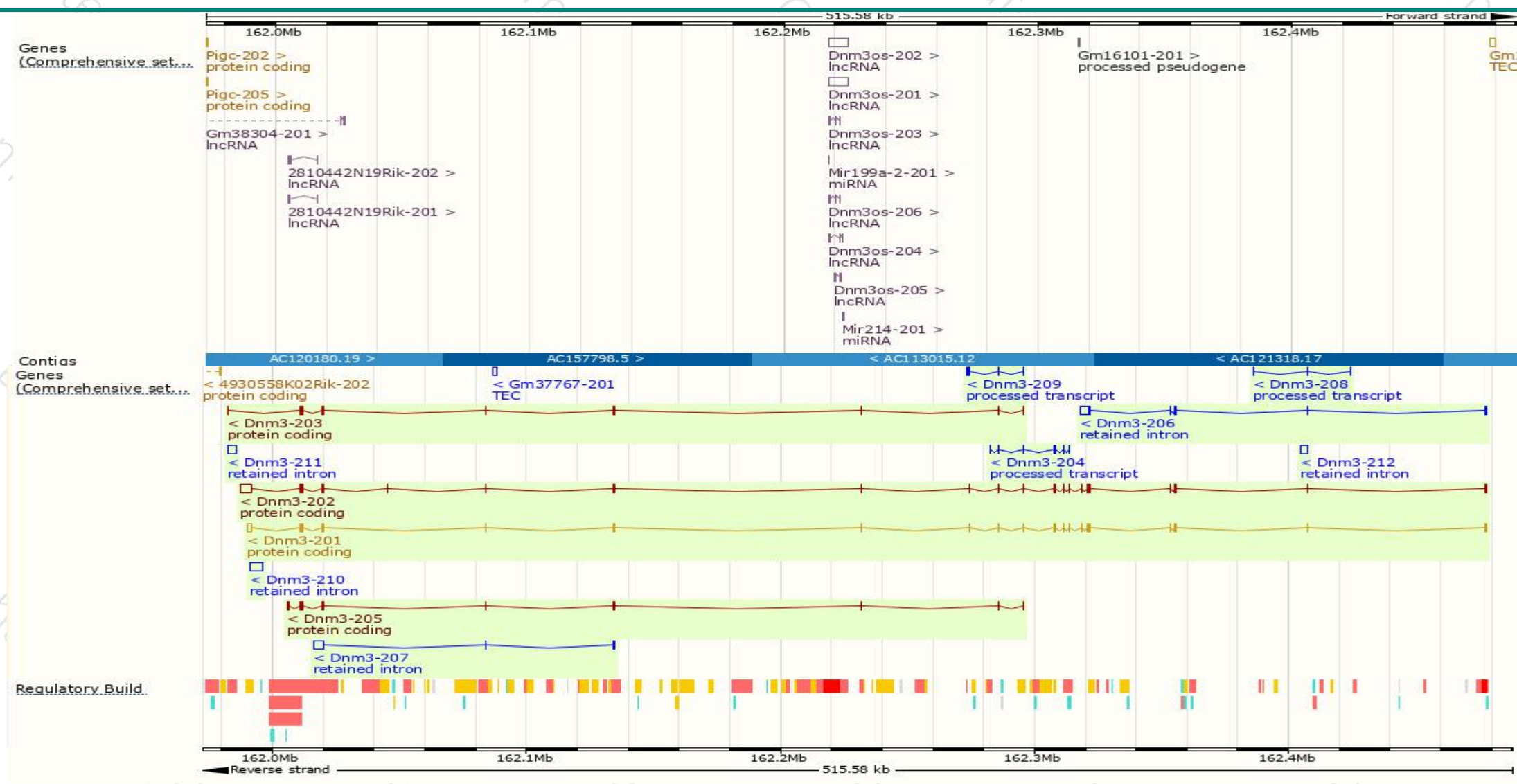
The gene has 12 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Dnm3-201	ENSMUST00000070330.13	4601	859aa	Protein coding	CCDS48417	Q8BZ98	TSL:1 GENCODE basic APPRIS P2
Dnm3-202	ENSMUST00000086074.11	7523	863aa	Protein coding	-	E9QLL2	TSL:5 GENCODE basic APPRIS ALT1
Dnm3-205	ENSMUST000000160665.7	1389	319aa	Protein coding	-	E0CXZ8	TSL:1 GENCODE basic
Dnm3-203	ENSMUST000000159763.7	1305	319aa	Protein coding	-	F2Z460	TSL:1 GENCODE basic
Dnm3-204	ENSMUST000000160173.1	725	No protein	Processed transcript	-	-	TSL:3
Dnm3-208	ENSMUST000000161894.1	426	No protein	Processed transcript	-	-	TSL:3
Dnm3-209	ENSMUST000000162330.7	421	No protein	Processed transcript	-	-	TSL:5
Dnm3-210	ENSMUST000000193110.1	4500	No protein	Retained intron	-	-	TSL:NA
Dnm3-207	ENSMUST000000161539.1	3842	No protein	Retained intron	-	-	TSL:1
Dnm3-206	ENSMUST000000161155.7	3819	No protein	Retained intron	-	-	TSL:1
Dnm3-211	ENSMUST000000195403.1	3272	No protein	Retained intron	-	-	TSL:NA
Dnm3-212	ENSMUST000000195768.1	2470	No protein	Retained intron	-	-	TSL:NA

The strategy is based on the design of *Dnm3-201* 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, Mice homozygous for a targeted allele are viable and fertile

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

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