

***Nup160* Cas9-CKO Strategy**

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Design Date: 2019-8-22

Project Overview

Project Name

Nup160

Project type

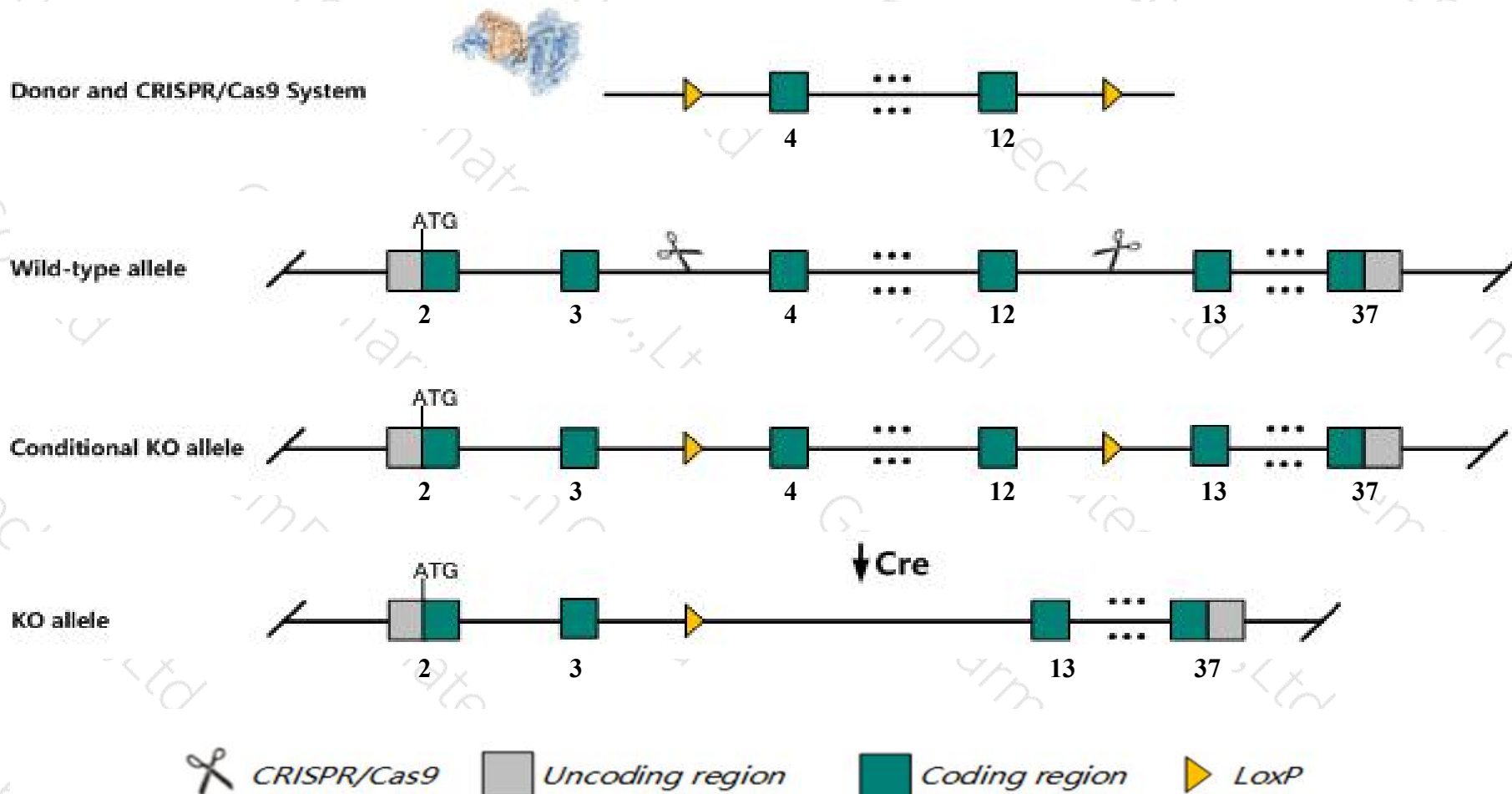
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Nup160* gene. The schematic diagram is as follows:



- The *Nup160* gene has 7 transcripts. According to the structure of *Nup160* gene, exon4-exon12 of *Nup160-201* (ENSMUST00000057481.6) transcript is recommended as the knockout region. The region contains 1117bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Nup160* gene. The brief process is as follows: CRISPR/Cas9 system and Donor were microinjected into the fertilized eggs of C57BL/6JGpt 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/6JGpt mice.
- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Nup160* gene is located on the Chr2. 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 *Nup160-202&203&204* 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Nup160 nucleoporin 160 [*Mus musculus* (house mouse)]

Gene ID: 59015, updated on 12-Aug-2019

Summary

Official Symbol Nup160 provided by [MGI](#)
Official Full Name nucleoporin 160 provided by [MGI](#)
Primary source [MGI:MGI:1926227](#)
See related [Ensembl:ENSMUSG000000051329](#)
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 Gtl13; 160kDa; Gtl-13; Gtl1-13; AA414952; AU020188; mKIAA0197; 2810011M03Rik
Expression Ubiquitous expression in liver E14 (RPKM 4.4), CNS E11.5 (RPKM 4.3) and 28 other tissues [See more](#)
Orthologs [human](#) [all](#)

Genomic context

Location: 2; 2 E1

See Nup160 in [Genome Data Viewer](#)

Exon count: 37

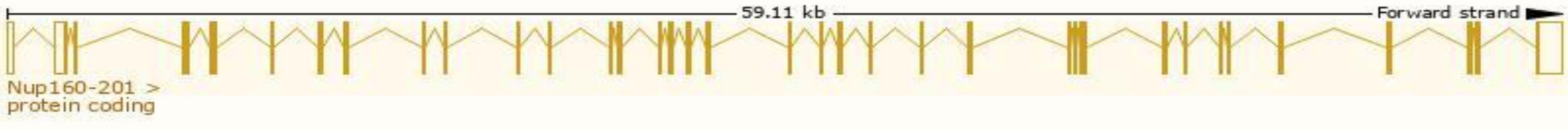
Annotation release	Status	Assembly	Chr	Location
108	current	GRCm38.p6 (GCF_000001635.26)	2	NC_000068.7 (90677215..90739327)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	2	NC_000068.6 (90517372..90576485)

Transcript information (Ensembl)

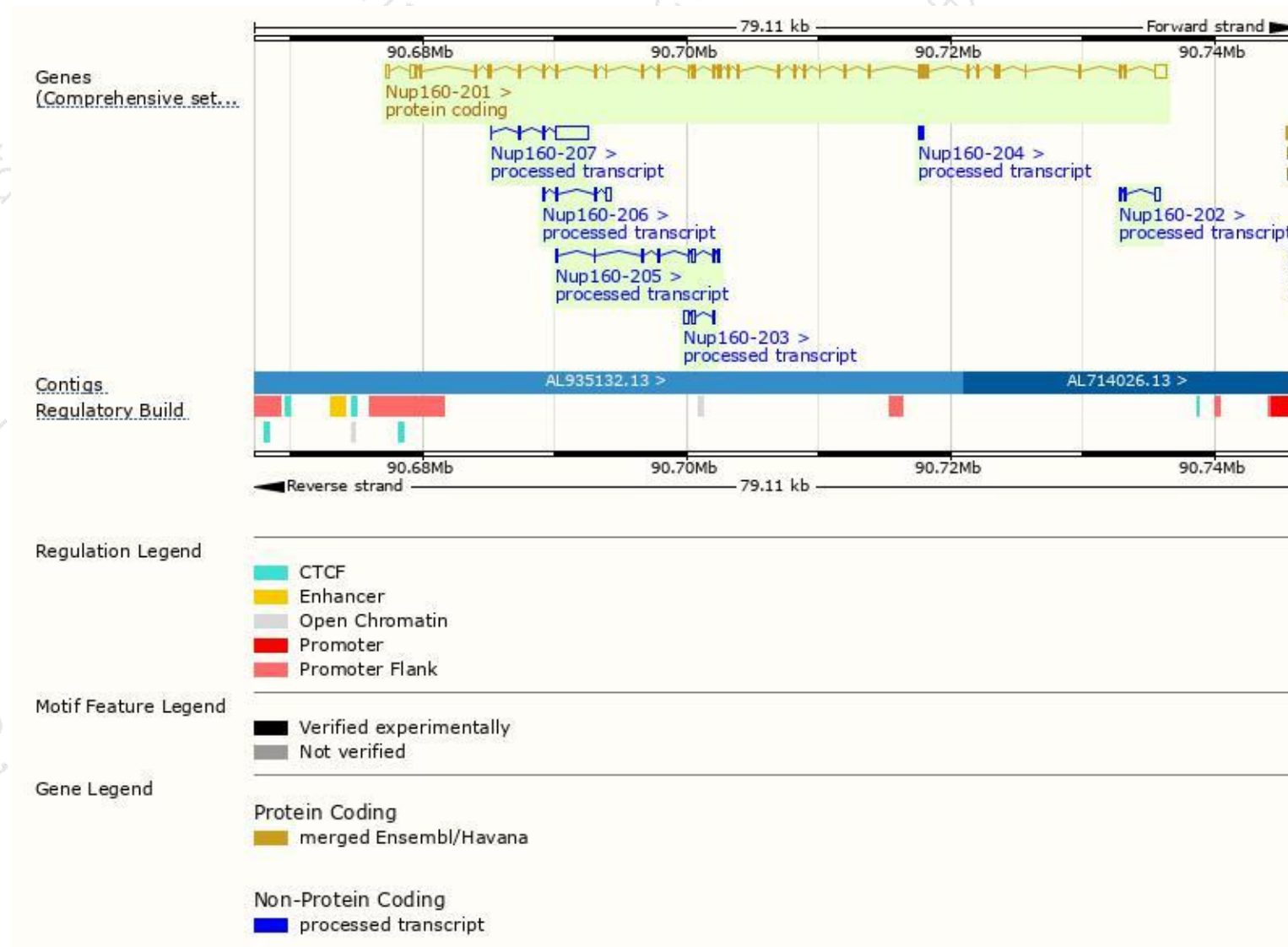
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Nup160-201	ENSMUST00000057481.6	5684	1402aa	Protein coding	CCDS16413	Q9Z0W3	TSL:1 GENCODE basic APPRIS P1
Nup160-207	ENSMUST00000154036.1	2673	No protein	Processed transcript	-	-	TSL:1
Nup160-206	ENSMUST00000145669.1	762	No protein	Processed transcript	-	-	TSL:3
Nup160-205	ENSMUST00000136739.7	726	No protein	Processed transcript	-	-	TSL:3
Nup160-203	ENSMUST00000130629.1	687	No protein	Processed transcript	-	-	TSL:3
Nup160-202	ENSMUST00000126503.1	658	No protein	Processed transcript	-	-	TSL:2
Nup160-204	ENSMUST00000132595.1	229	No protein	Processed transcript	-	-	TSL:3

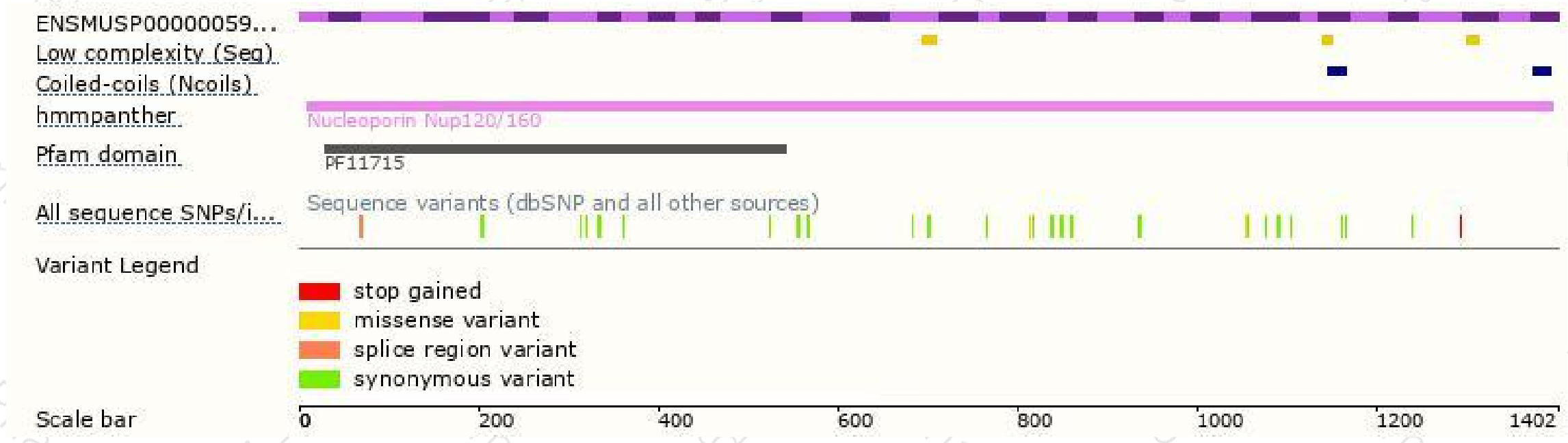
The strategy is based on the design of *Nup160-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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