

Lingo2 Cas9-KO Strategy

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Project Overview

Project Name

Lingo2

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Lingo2* gene. The schematic diagram is as follows:



- The *Lingo2* gene has 10 transcripts. According to the structure of *Lingo2* gene, exon2 of *Lingo2-210* (ENSMUST00000164772.7) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Lingo2* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Lingo2* gene is located on the Chr4. 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)

Lingo2 leucine rich repeat and Ig domain containing 2 [Mus musculus (house mouse)]

Gene ID: 242384, updated on 31-Jan-2019

Summary



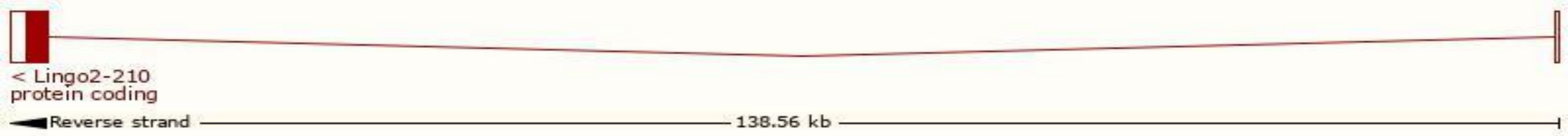
Official Symbol	Lingo2 provided by MGI
Official Full Name	leucine rich repeat and Ig domain containing 2 provided by MGI
Primary source	MGI:MGI:2442298
See related	Ensembl:ENSMUSG00000045083
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	B230217C06Rik, Lern3, Lrn6c
Expression	Biased expression in cortex adult (RPKM 1.0), CNS E18 (RPKM 0.9) and 6 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

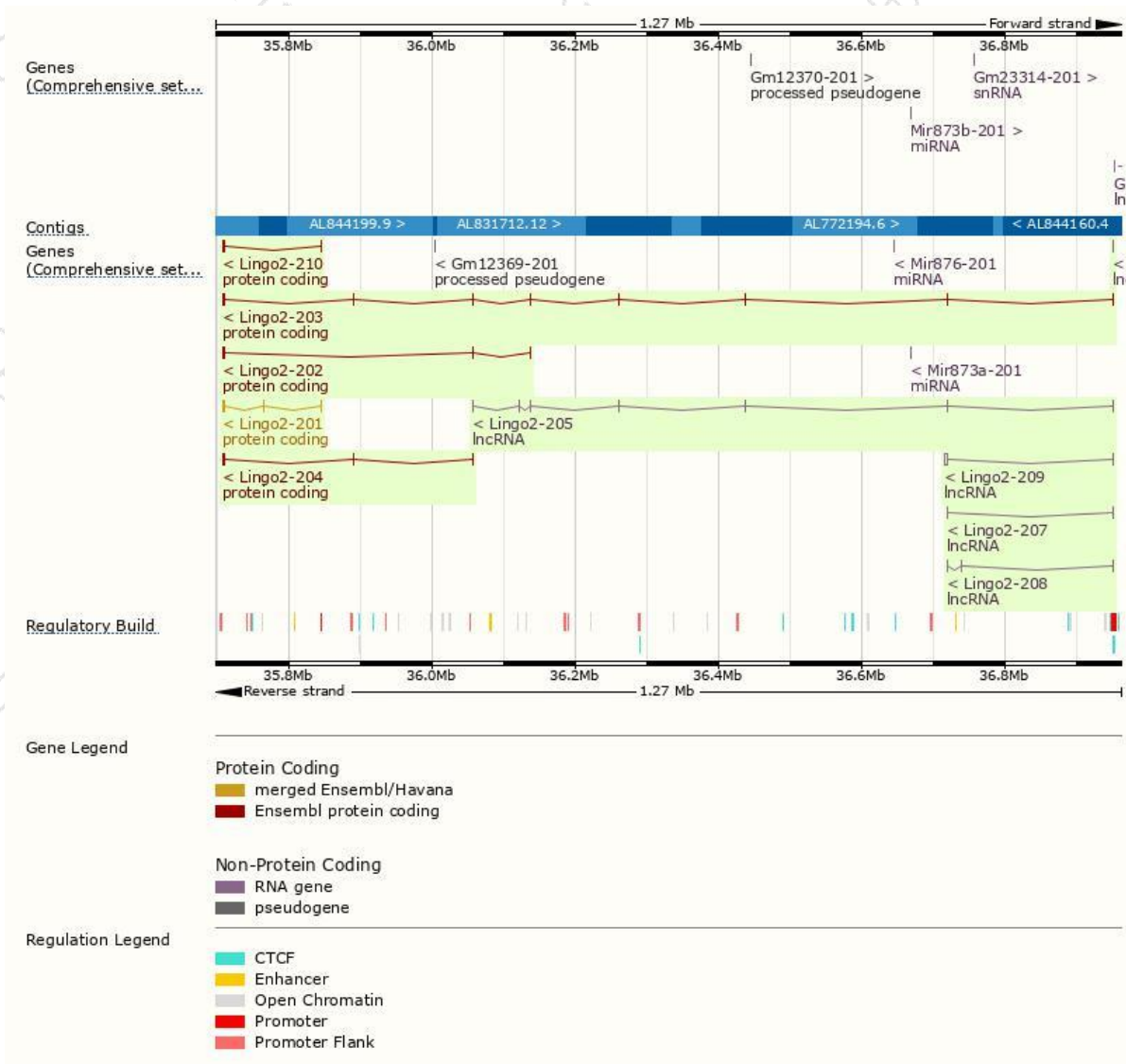
The gene has 10 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Lingo2-210	ENSMUST00000164772.7	3562	606aa	Protein coding	CCDS18040	B2RQD4 Q3URE9	TSL:1 GENCODE basic APPRIS P1
Lingo2-203	ENSMUST00000108122.7	3362	606aa	Protein coding	CCDS18040	B2RQD4 Q3URE9	TSL:1 GENCODE basic APPRIS P1
Lingo2-201	ENSMUST00000065173.8	2910	606aa	Protein coding	CCDS18040	B2RQD4 Q3URE9	TSL:1 GENCODE basic APPRIS P1
Lingo2-202	ENSMUST00000098151.8	2781	606aa	Protein coding	CCDS18040	B2RQD4 Q3URE9	TSL:5 GENCODE basic APPRIS P1
Lingo2-204	ENSMUST00000108124.3	2414	606aa	Protein coding	CCDS18040	B2RQD4 Q3URE9	TSL:1 GENCODE basic APPRIS P1
Lingo2-209	ENSMUST00000145615.1	3808	No protein	lncRNA	-	-	TSL:1
Lingo2-205	ENSMUST00000124999.1	640	No protein	lncRNA	-	-	TSL:5
Lingo2-207	ENSMUST00000127372.1	617	No protein	lncRNA	-	-	TSL:3
Lingo2-208	ENSMUST00000144170.1	425	No protein	lncRNA	-	-	TSL:3
Lingo2-206	ENSMUST00000125128.1	368	No protein	lncRNA	-	-	TSL:5

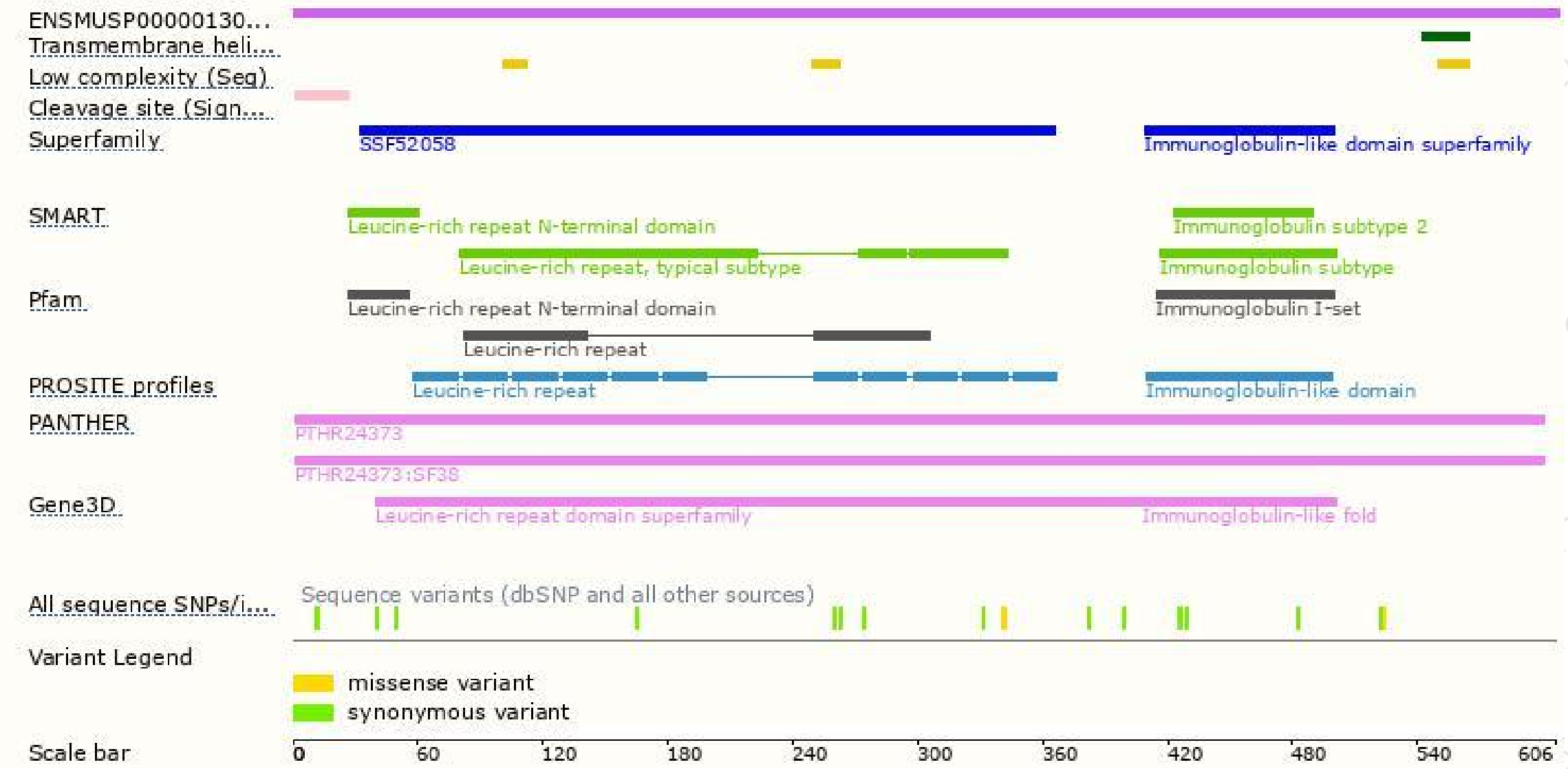
The strategy is based on the design of *Lingo2-210* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

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