

Ipo7 Cas9-KO Strategy

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Project Overview



Project Name

Ipo7

Project type

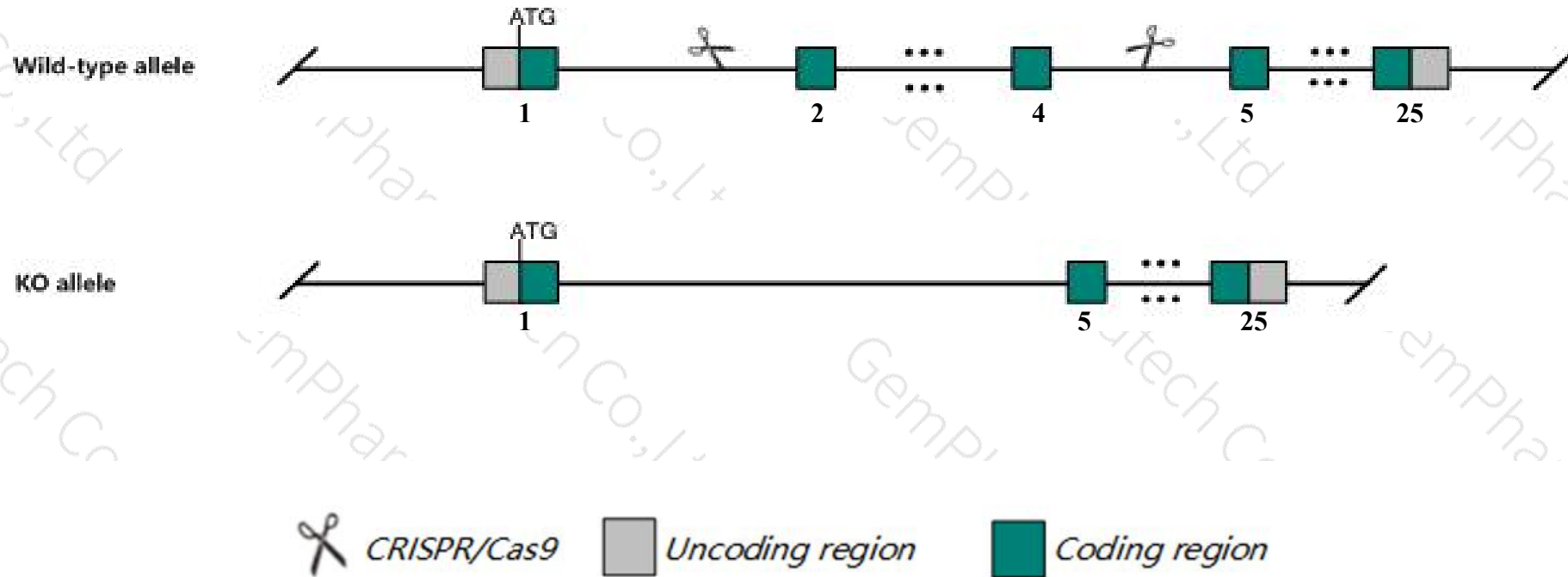
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ipo7* gene. The schematic diagram is as follows:



- The *Ipo7* gene has 5 transcripts. According to the structure of *Ipo7* gene, exon2-exon4 of *Ipo7-201* (ENSMUST00000084731.4) transcript is recommended as the knockout region. The region contains 395bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Ipo7* gene. The brief process is as follows: CRISPR/Cas9 system w

Notice

- The *Ipo7* gene is located on the Chr7. 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)

Ipo7 importin 7 [Mus musculus (house mouse)]

Gene ID: 233726, updated on 19-Mar-2019

Summary

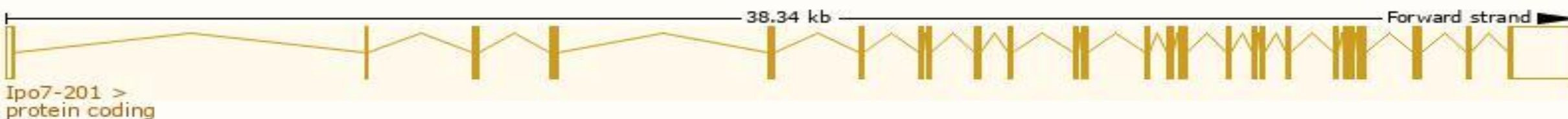
Official Symbol	Ipo7 provided by MGI
Official Full Name	importin 7 provided by MGI
Primary source	MGI:MGI:2152414
See related	Ensembl:ENSMUSG00000066232
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	A330055O14Rik, C330016G14, Imp7, Ranbp7
Expression	Ubiquitous expression in CNS E11.5 (RPKM 27.1), placenta adult (RPKM 21.3) and 28 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

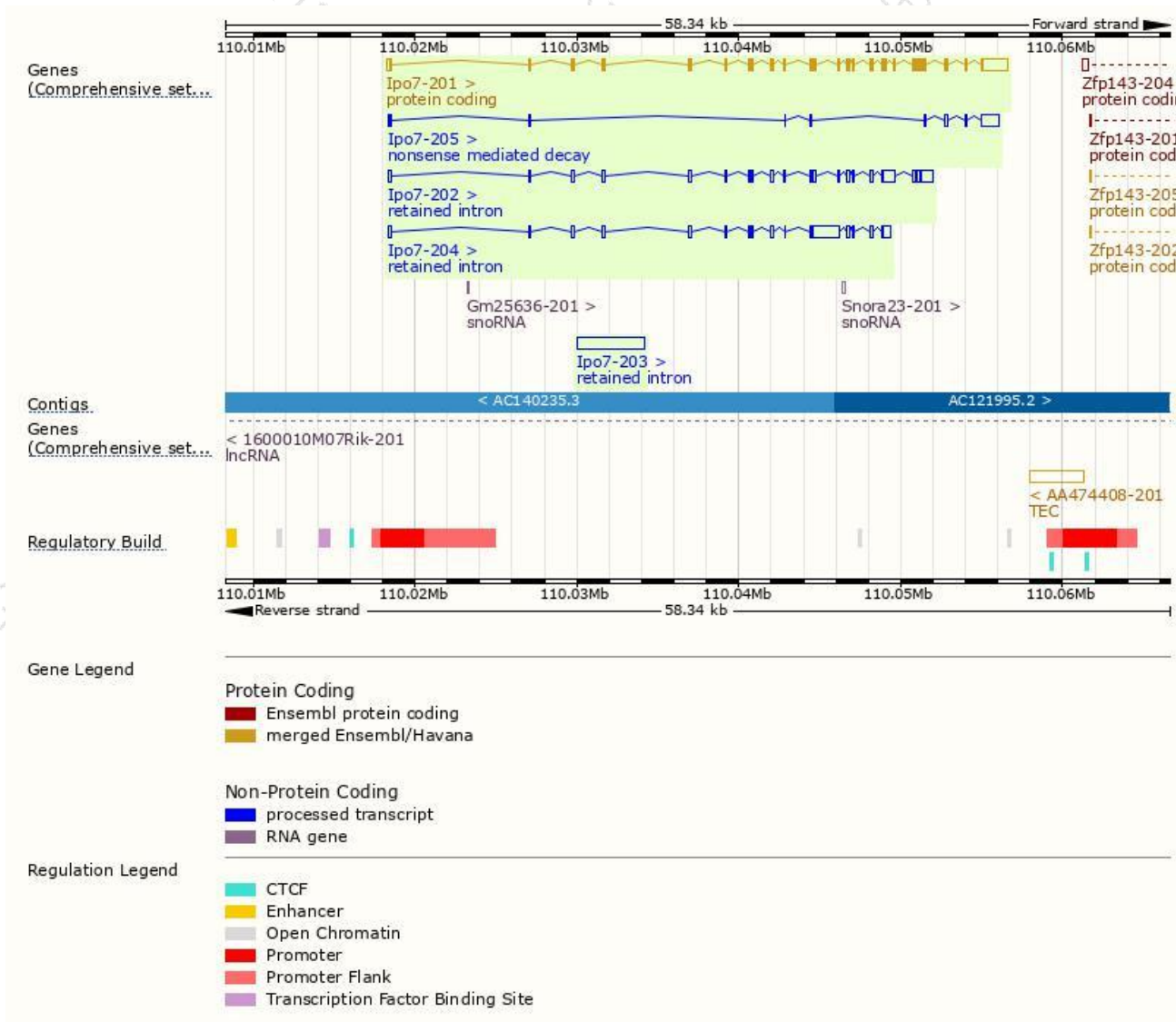
The gene has 5 transcripts, all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ipo7-201	ENSMUST00000084731.4	4763	1038aa	Protein coding	CCDS40085	Q9EPL8	TSL:1 GENCODE basic APPRIS P1
Ipo7-205	ENSMUST00000208951.1	1883	70aa	Nonsense mediated decay	-	A0A140LHD0	TSL:1
Ipo7-203	ENSMUST00000208408.1	4159	No protein	Retained intron	-	-	TSL:NA
Ipo7-204	ENSMUST00000208821.1	3867	No protein	Retained intron	-	-	TSL:1
Ipo7-202	ENSMUST00000207277.1	3784	No protein	Retained intron	-	-	TSL:1

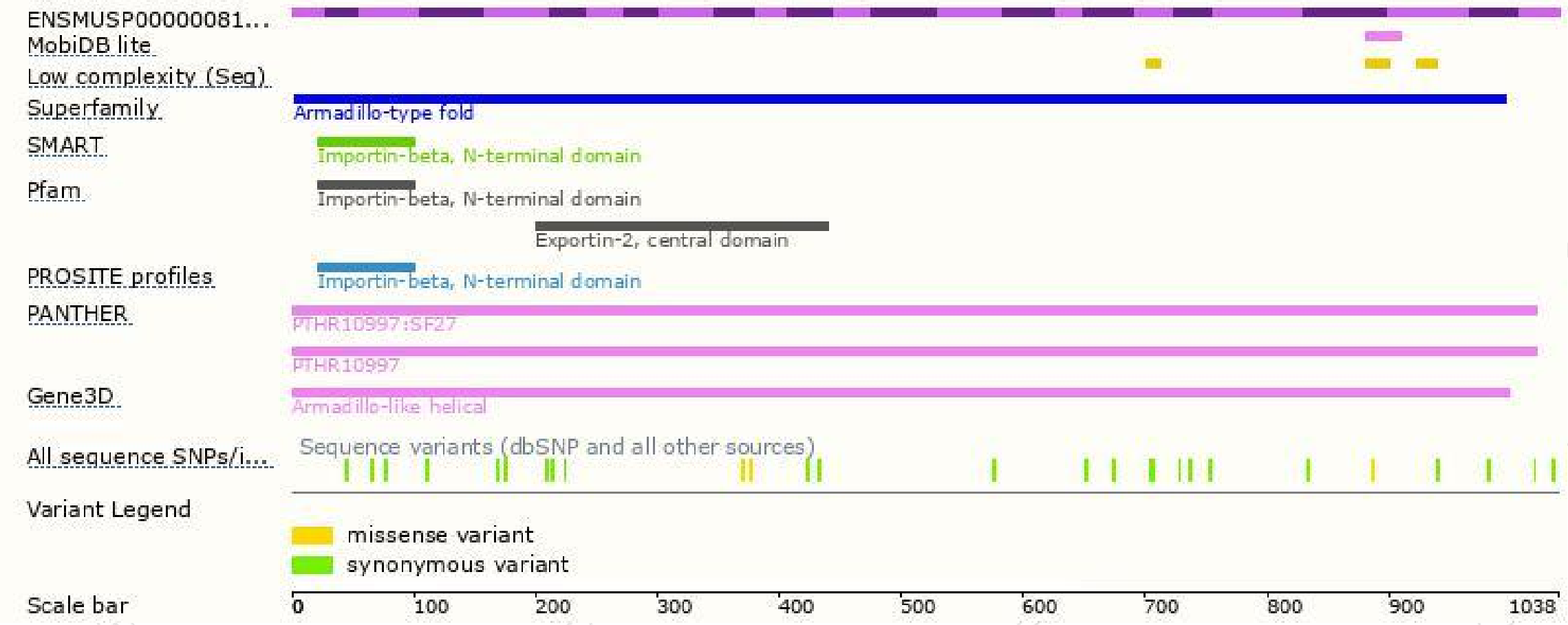
The strategy is based on the design of *Ipo7-201* transcript, The transcription is shown below



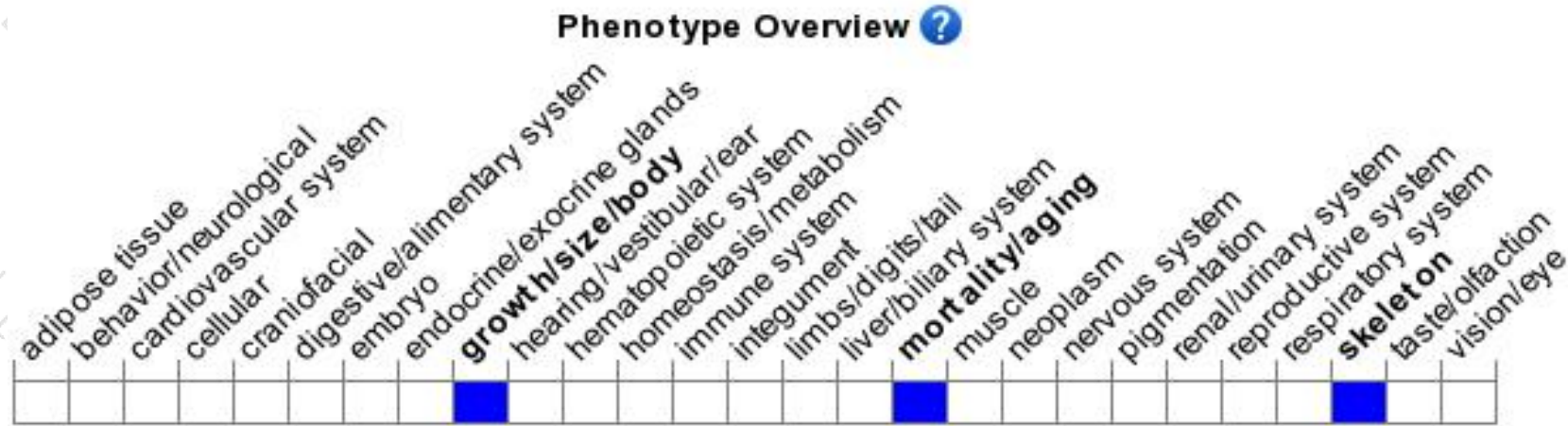
Genomic location distribution



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/>).

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

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