Hnrnpdl Cas9-KO *Strategy*

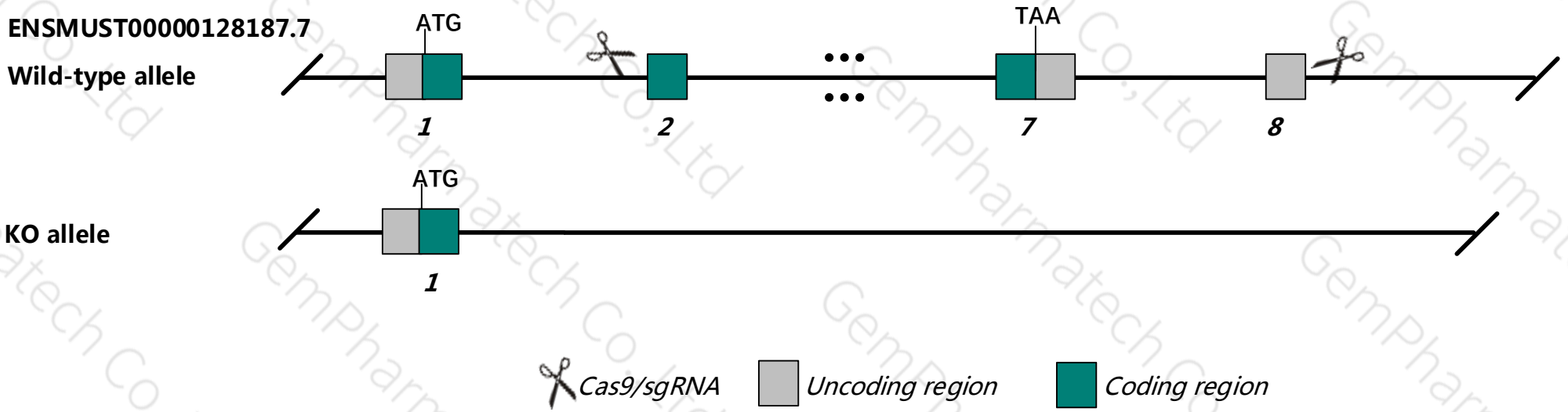
Designer: Daohua Xu

Project Overview

Project Name	***Hnrnpdl***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

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



Technical routes

- The *Hnrnpdl* gene has 7 transcripts.According to the structure of *Hnrnpdl* gene, exon2-exon8 of *Hnrnpdl*-202 transcript is recommended as the knockout region.The region contains most 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 *Hnrnpdl* gene. The brief process is as follows: sgRNA was transcribed in vitro.Cas9 and sgRNA 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.

Notice

- The KO region contains the functional region of the *Enoph1* gene.Knockout the region may affect its function of *Enoph1* gene.
- The *Hnrnpdl* gene is located on the Chr5. 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 gene transcription and translation processes, all risks cannot be predicted under existing information.

Gene information （NCBI）

集萃药康 GemPharmatech

Hnrnpdl heterogeneous nuclear ribonucleoprotein D-like [*Mus musculus* (house mouse)]

Gene ID: 50926, updated on 31-Jan-2019

Summary

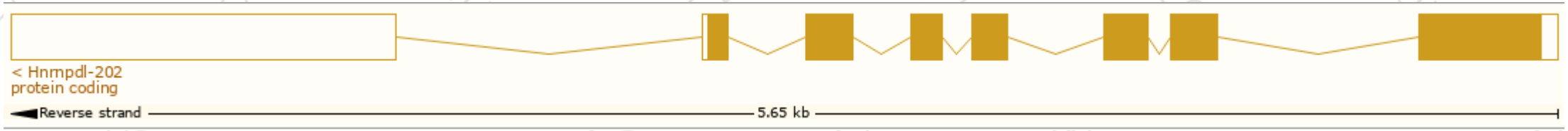
Official Symbol	Hnrnpdl provided by MGI
Official Full Name	heterogeneous nuclear ribonucleoprotein D-like provided by MGI
Primary source	MGI:MGI:1355299
See related	Ensembl:ENSMUSG00000029328
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	JKTBP; Hnrpdl; AA407431; AA959857; Hnrnpdl1; hnRNP DL; hnRNP-DL; D5Wsu145e; D5Ertd650e
Expression	Ubiquitous expression in CNS E11.5 (RPKM 88.2), CNS E14 (RPKM 86.7) and 27 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

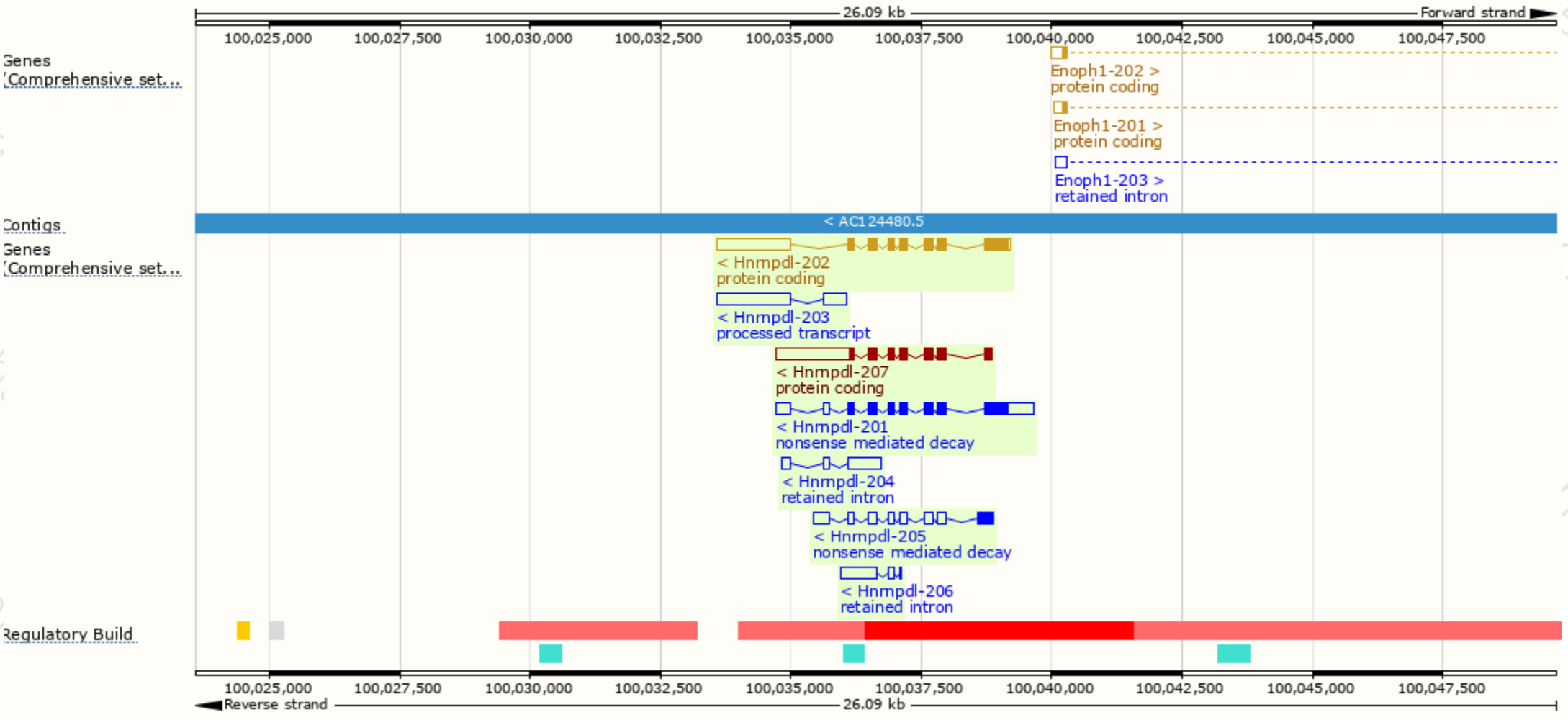
The gene has 7 transcripts, and all transcripts are shown below ：

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Hnrnpdl-202	ENSMUST00000128187.7	2752	420aa	Protein coding	CCDS19460	D3YTQ3	TSL:1 GENCODE basic APPRIS P1
Hnrnpdl-207	ENSMUST00000153442.7	2374	323aa	Protein coding	-	F6VQH5	CDS 5' incomplete TSL:1
Hnrnpdl-201	ENSMUST00000086900.10	2149	420aa	Nonsense mediated decay	-	D3YTQ3	TSL:5
Hnrnpdl-205	ENSMUST00000149384.7	1477	100aa	Nonsense mediated decay	-	F6ZKM7	CDS 5' incomplete TSL:5
Hnrnpdl-203	ENSMUST00000135424.6	1842	No protein	Processed transcript	-	-	TSL:1
Hnrnpdl-204	ENSMUST00000141337.1	884	No protein	Retained intron	-	-	TSL:2
Hnrnpdl-206	ENSMUST00000151323.1	846	No protein	Retained intron	-	-	TSL:2

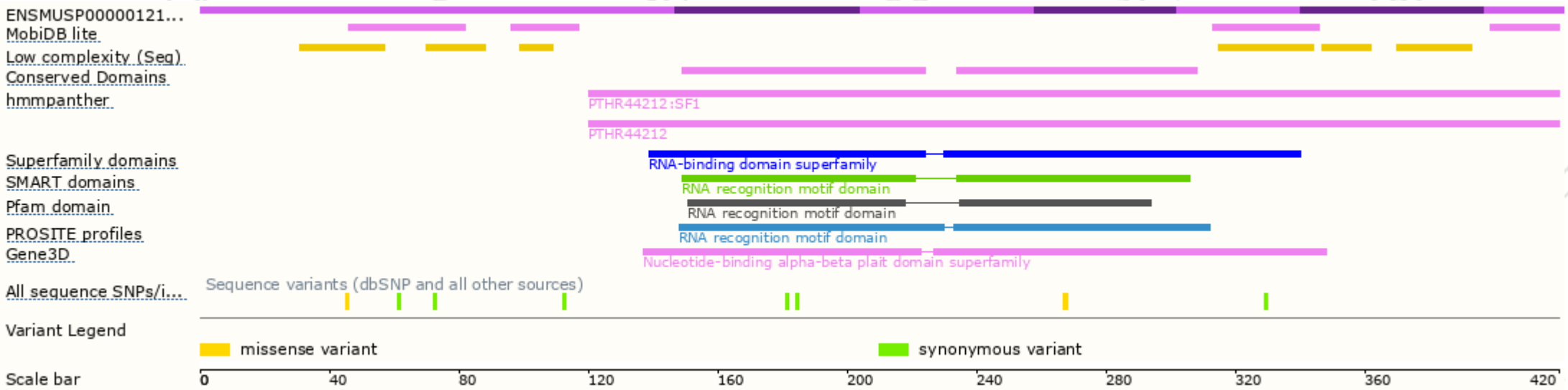
The strategy is based on the design of *Hnrnpdl*-202 transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 025-5864 1534

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GemPharmatech Co.,Ltd