Os9 Cas9-KO Strategy

Designer:　　　　**JiaYu**

Reviewer：　　　　**Xiaojing Li**

Design Date:　　　**2020-3-20**

Project Overview

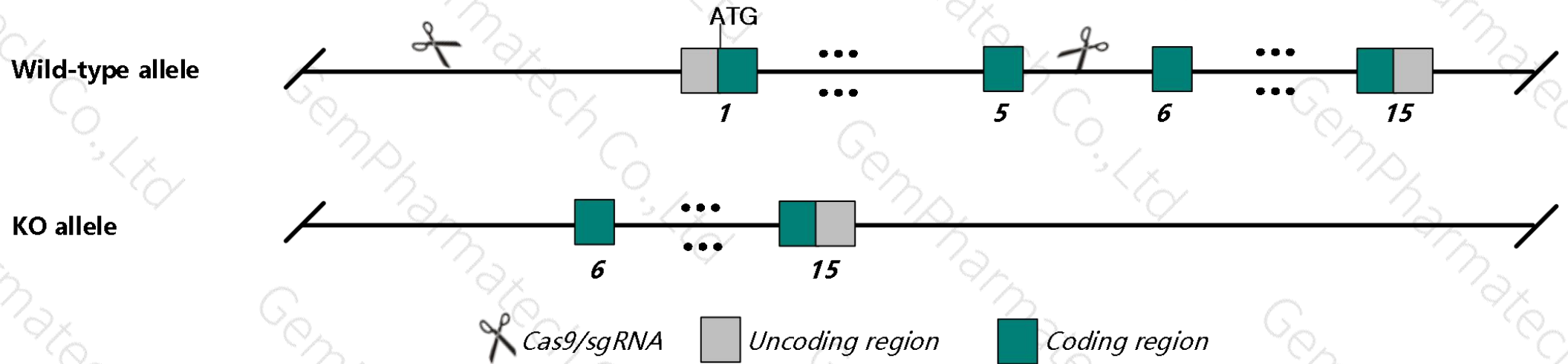|	
Project Name	***Os9***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Os9* gene. The schematic diagram is as follows:

Technical routes

➢ The *Os9* gene has 3 transcripts. According to the structure of *Os9* gene, exon1-exon5 of *Os9-202* (ENSMUST00000164259.8) transcript is recommended as the knockout region.The region contains start codon ATG. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Os9* gene. The brief process is as follows: CRISPR/Cas9 system w

Notice

➢ The Os9 gene is located on the Chr10.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）

Os9 amplified in osteosarcoma [*Mus musculus* (house mouse)]

Gene ID: 216440, updated on 13-Mar-2020

⌃ **Summary**

|	
Official Symbol	Os9 provided by MGI
Official Full Name	amplified in osteosarcoma provided by MGI
Primary source	MGI:MGI:1924301
See related	Ensembl:ENSMUSG00000040462
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	AU022351; 4632413K17Rik
Expression	Ubiquitous expression in duodenum adult (RPKM 33.8), liver adult (RPKM 33.3) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

The gene has 3 transcripts,and the transcript is shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags		
Os9-202	ENSMUST00000164259.8	2627	672aa	Protein coding	CCDS48713	Q8K2C7	TSL:1	GENCODE basic	APPRIS ALT2
Os9-201	ENSMUST00000080975.5	2458	617aa	Protein coding	CCDS24229	Q8K2C7	TSL:1	GENCODE basic	APPRIS P3
Os9-203	ENSMUST00000218798.1	723	96aa	Nonsense mediated decay	-	A0A1W2P6Z8		CDS 5' incomplete	TSL:3

The strategy is based on the design of *Os9-202* transcript,The transcription is shown below

< Os9-202
protein coding
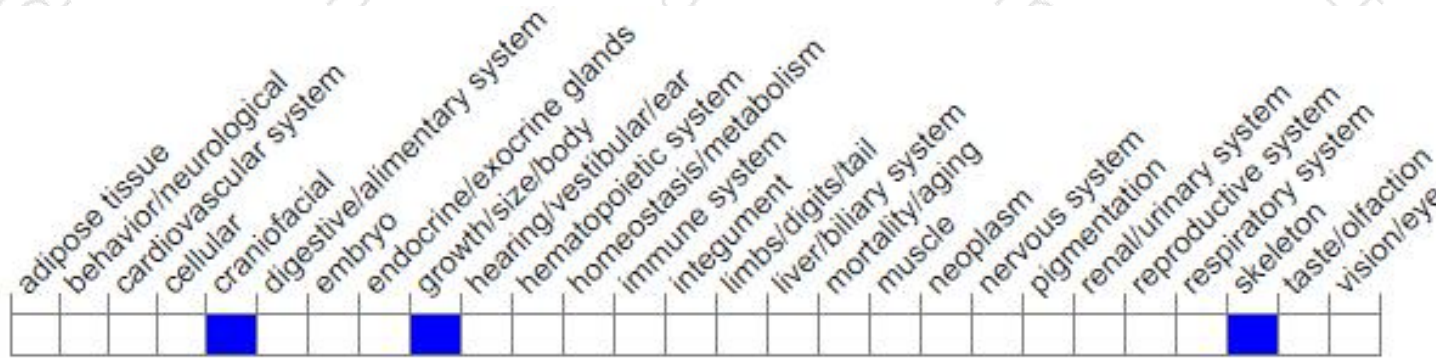
Reverse strand

25.48 kb
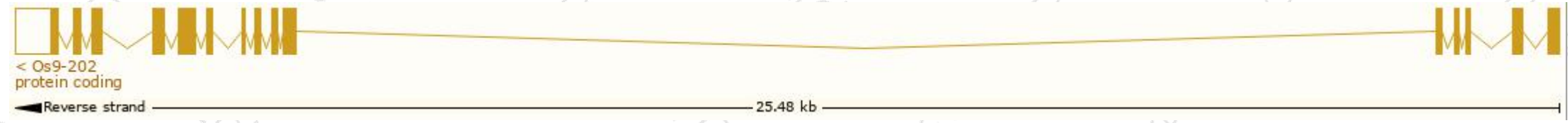
Genomic location distribution
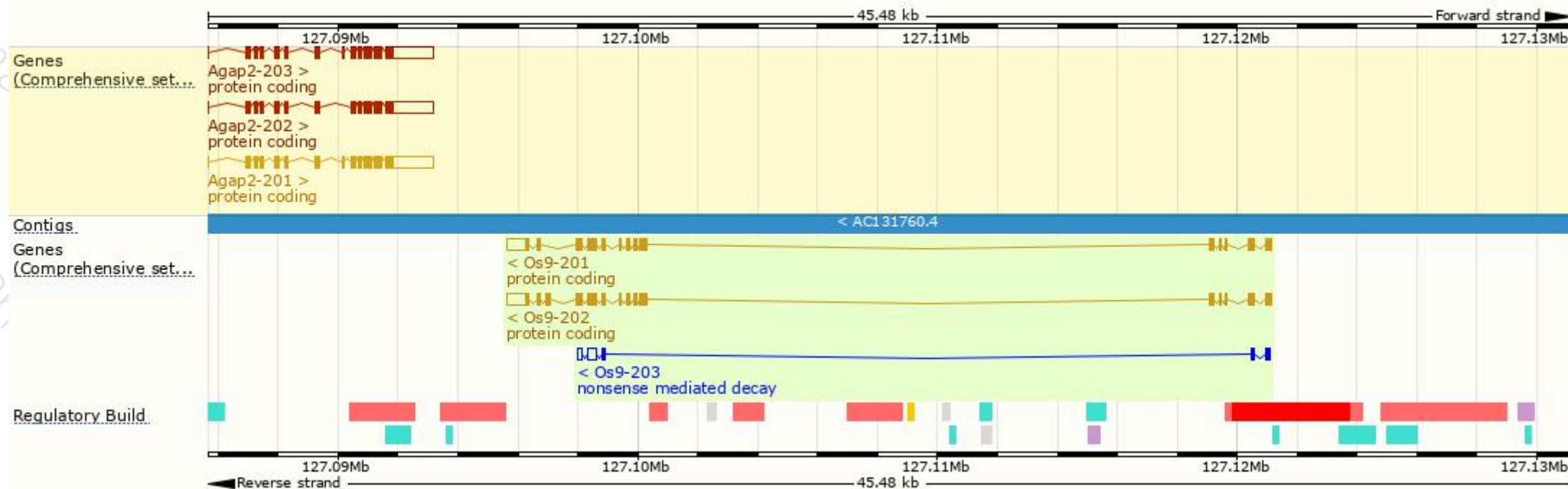
Protein domain
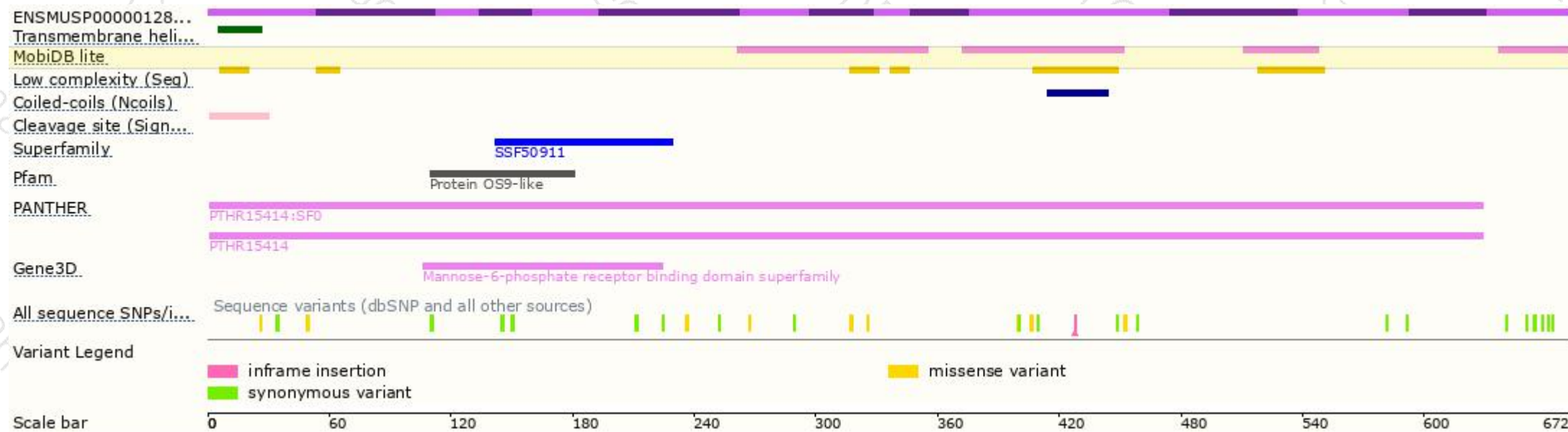
Mouse phenotype description(MGI)

Phenotypes affected by the gene are marked in blue.Data quoted from MGI database(http://www.informatics.jax.org/).

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If you have any questions, you are welcome to inquire.
Tel: 400-9660890

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GemPharmatech Co.,Ltd