Ints9 Cas9-KO Strategy

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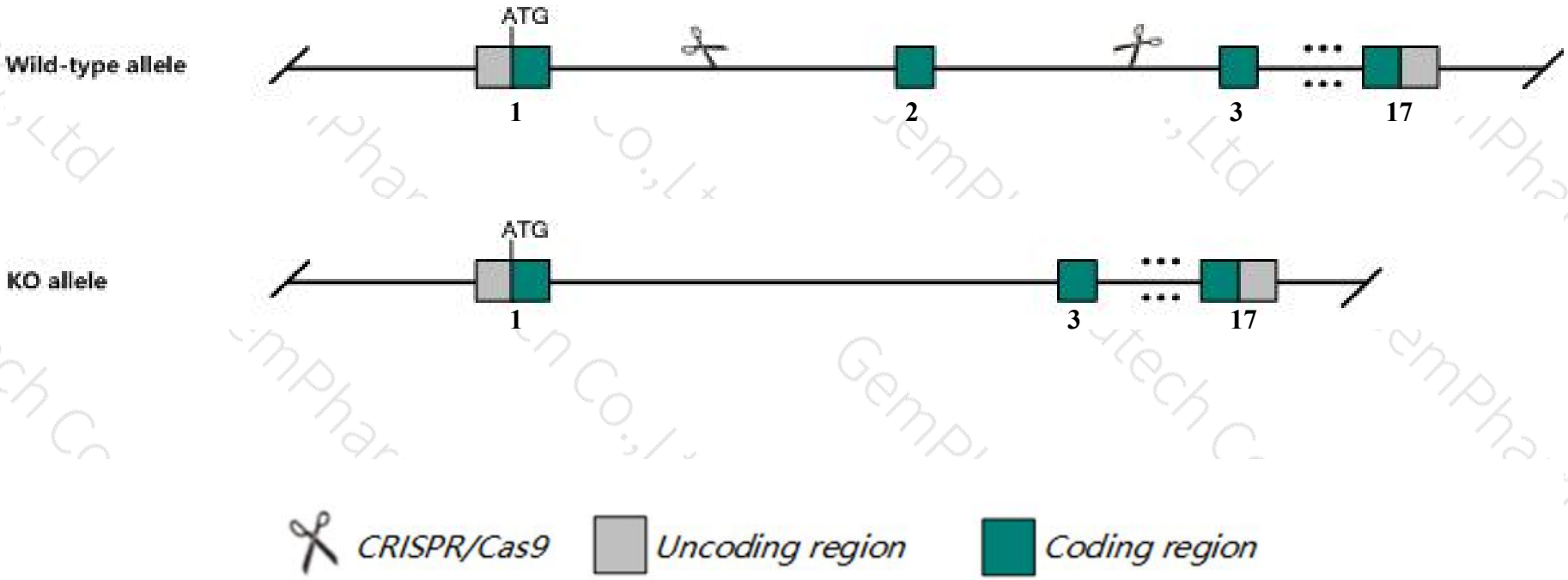
Project Overview

Project Name	***Ints9***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Ints9* gene. The schematic diagram is as follows:



Technical routes

➢ The *Ints9* gene has 3 transcripts. According to the structure of *Ints9* gene, exon2 of *Ints9-201* (ENSMUST00000043914.6) transcript is recommended as the knockout region.The region contains 128bp coding sequence. Knock out the region will result in disruption of protein function.

➢ In this project we use CRISPR/Cas9 technology to modify *Ints9* gene. The brief process is as follows: CRISPR/Cas9 system v

Notice

➢ The *Ints9* gene is located on the Chr14. 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）

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Ints9 integrator complex subunit 9 [Mus musculus (house mouse)]

Gene ID: 210925, updated on 31-Jan-2019

Summary

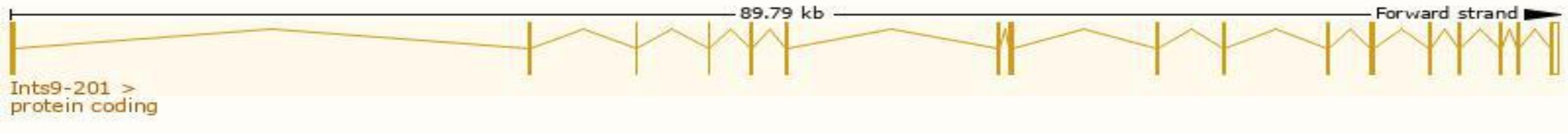
Official Symbol	Ints9 provided by MGI
Official Full Name	integrator complex subunit 9 provided by MGI
Primary source	MGI:MGI:1098533
See related	Ensembl:ENSMUSG00000021975
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	BC028953, D14Ertd231e
Expression	Ubiquitous expression in thymus adult (RPKM 12.8), limb E14.5 (RPKM 10.8) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

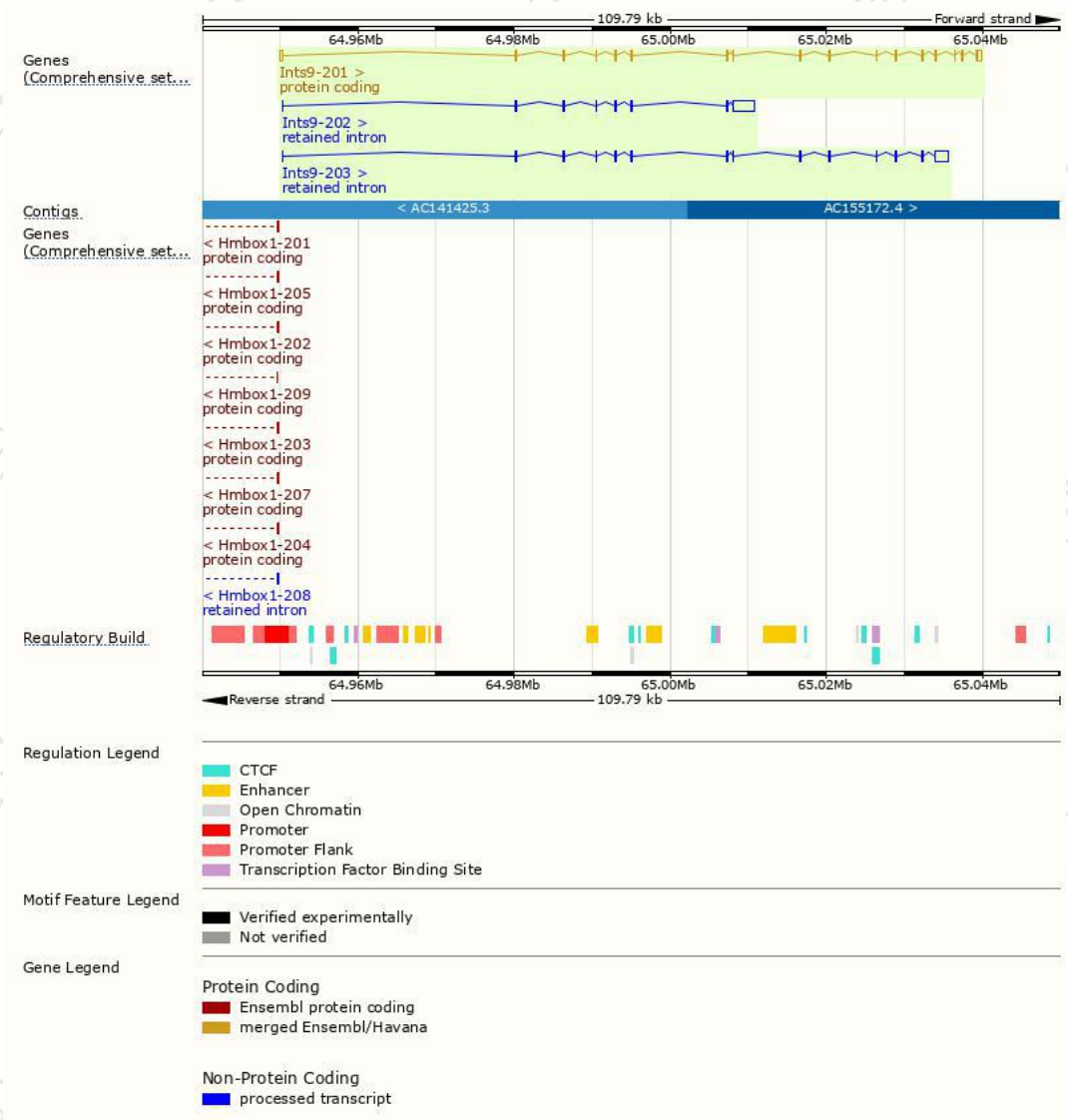
The gene has 3 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Ints9-201	ENSMUST00000043914.6	2674	687aa	Protein coding	CCDS27210	A0A0R4J0J5	TSL:1 GENCODE basic APPRIS P1
Ints9-202	ENSMUST00000224593.1	3476	No protein	Retained intron	-	-	
Ints9-203	ENSMUST00000225790.1	3074	No protein	Retained intron	-	-	

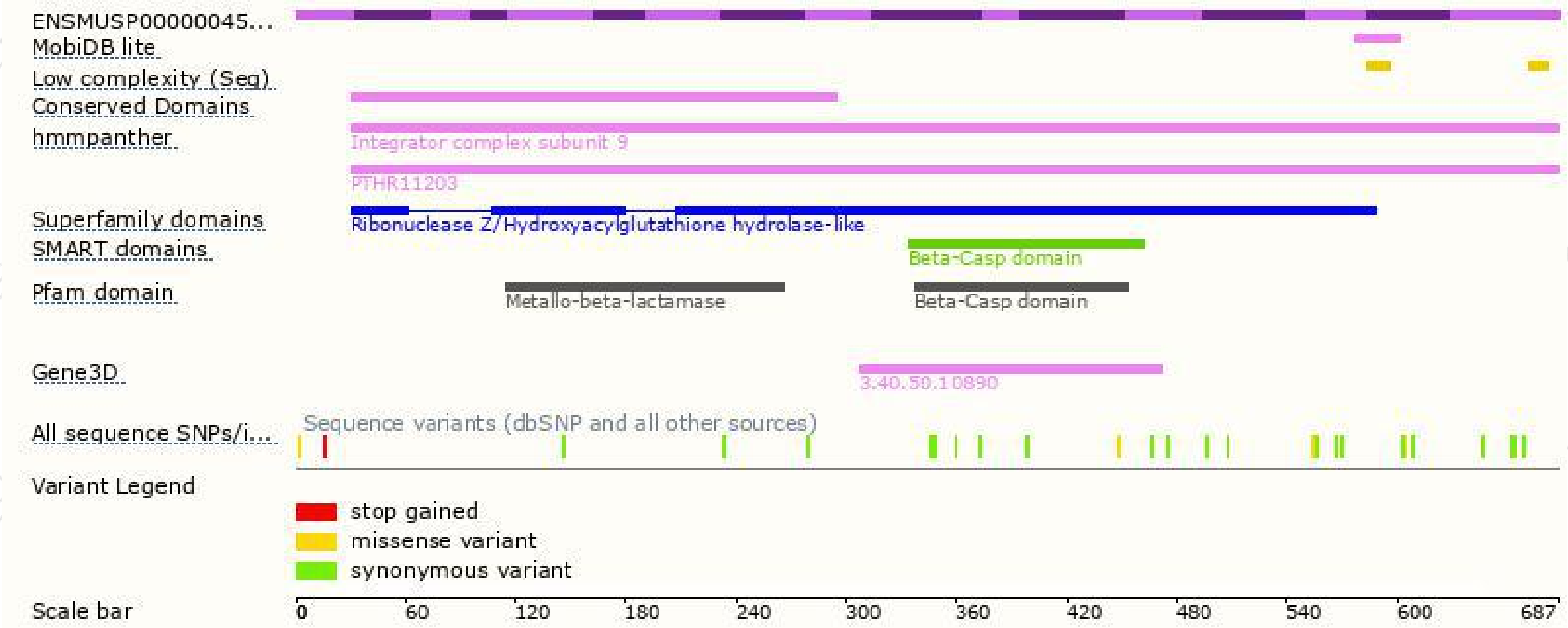
The strategy is based on the design of *Ints9-201* transcript,The transcription is shown below



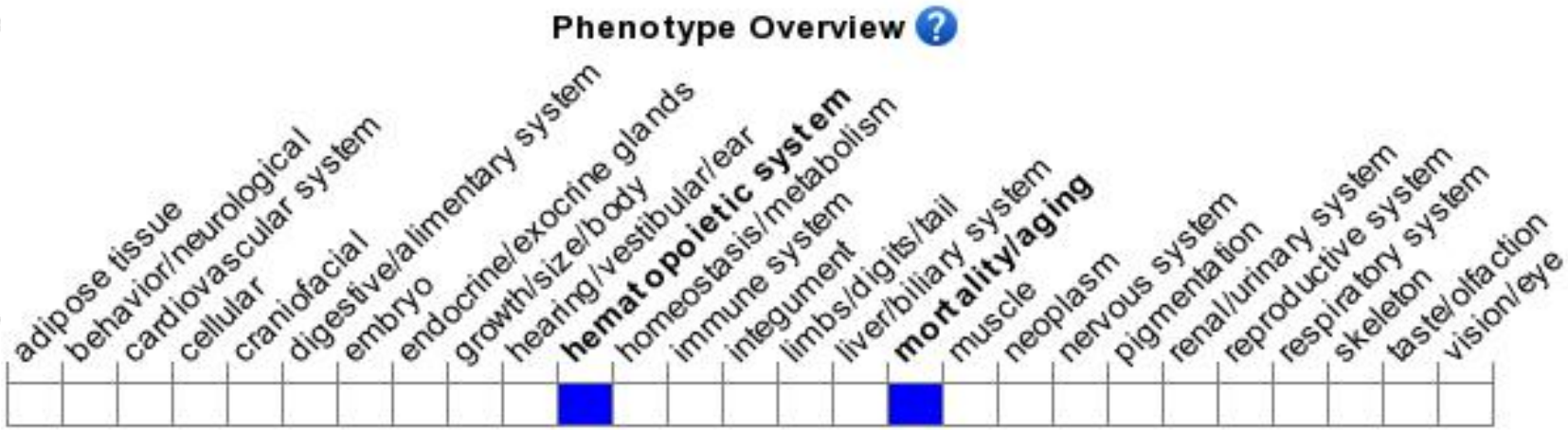
Genomic location distribution



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/).

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

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