Wasl Cas9-KO Strategy

Designer: Daohua Xu

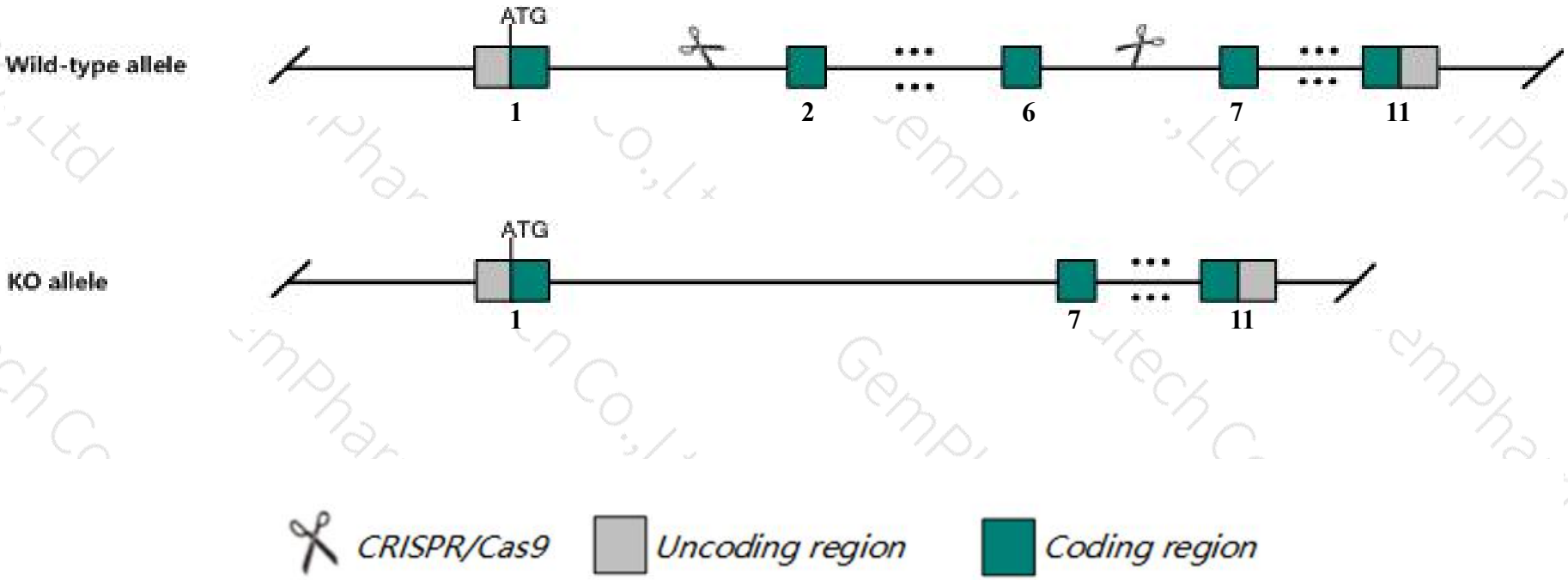
Design Date: 2019-8-5

Project Overview

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

Knockout strategy

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



Technical routes

➢ The *Wasl* gene has 4 transcripts. According to the structure of *Wasl* gene, exon2-exon6 of *Wasl-201* (ENSMUST00000031695.14) transcript is recommended as the knockout region.The region contains 512bp coding sequence. Knock out the region will result in disruption of protein function.

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

Notice

- According to the existing MGI data,Homozygous mutants exhibit developmental retardation, fail to undergo turning, show abnormal differentiation of intra- and extra-embryonal mesoderm, and die around midgestation.

- The *Wasl* gene is located on the Chr6. 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）

集萃药康 GemPharmatech

Wasl Wiskott-Aldrich syndrome-like (human) [Mus musculus (house mouse)]

Gene ID: 73178, updated on 24-Feb-2019

Summary

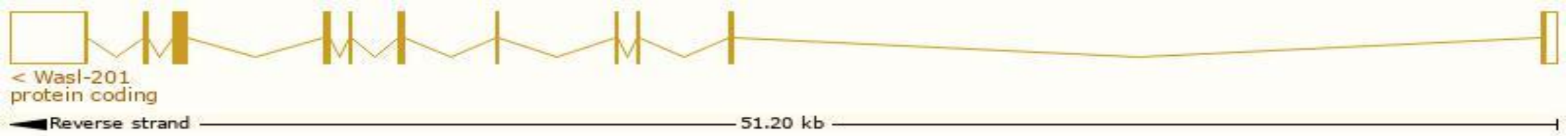
Official Symbol	Wasl provided by MGI
Official Full Name	Wiskott-Aldrich syndrome-like (human) provided by MGI
Primary source	MGI:MGI:1920428
See related	Ensembl:ENSMUSG00000029684
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	2900021I12Rik, 3110031I02Rik, N-WASP
Expression	Ubiquitous expression in bladder adult (RPKM 16.7), adrenal adult (RPKM 13.4) and 28 other tissues See more
Orthologs	human all

Transcript information（Ensembl）

The gene has 4 transcripts,all transcripts are shown below:

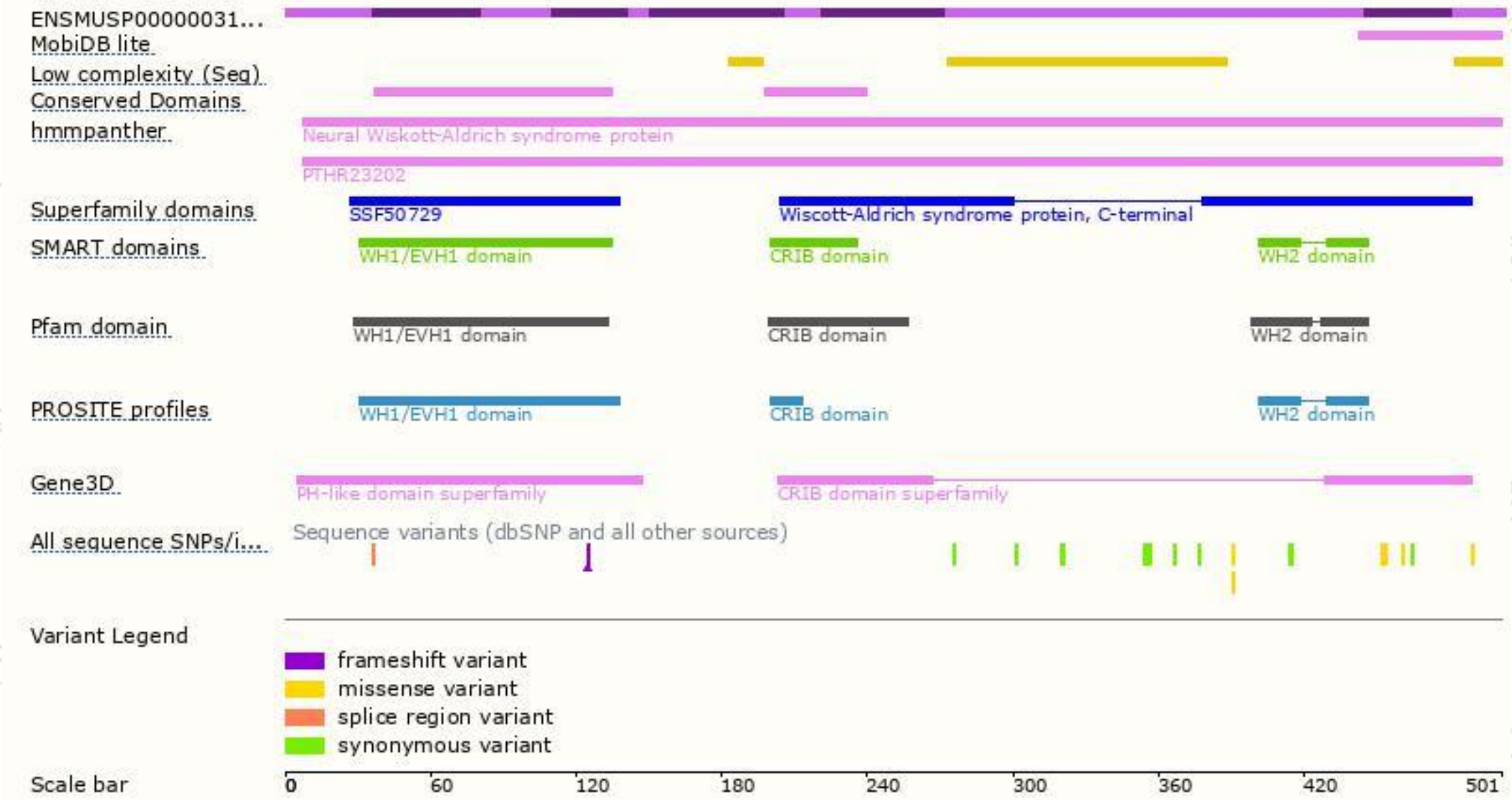
Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Wasl-201	ENSMUST00000031695.14	4352	501aa	Protein coding	CCDS19945	Q3TXX8 Q91YD9	TSL:1 GENCODE basic APPRIS P1
Wasl-202	ENSMUST00000041737.7	1298	193aa	Protein coding	CCDS51727	Q9CXQ9	TSL:1 GENCODE basic
Wasl-204	ENSMUST00000201867.1	1411	No protein	Retained intron	-	-	TSL:NA
Wasl-203	ENSMUST00000173399.1	448	No protein	lncRNA	-	-	TSL:3

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

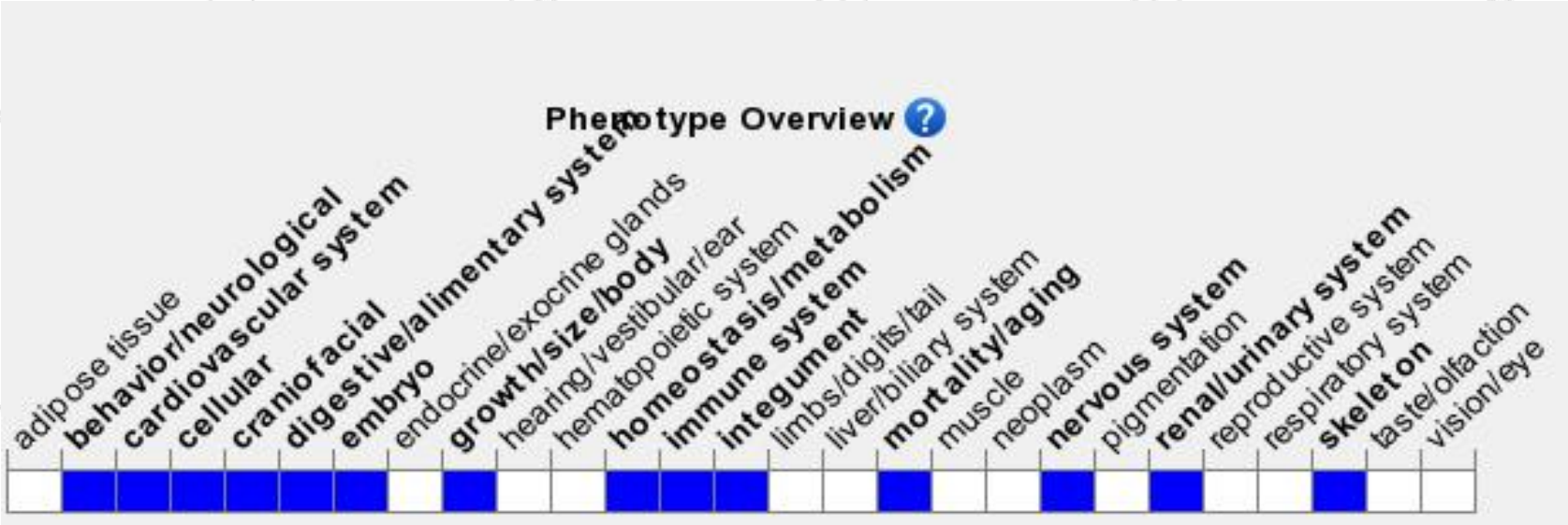


Genomic location distribution

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/).

According to the existing MGI data,Homozygous mutants exhibit developmental retardation, fail to undergo turning, show abnormal differentiation of intra- and extra-embryonal mesoderm, and die around midgestation.

集萃药康
GemPharmatech

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

Tel: 400-9660890

集萃药康生物科技
GemPharmatech Co.,Ltd