

# *Lgals3bp* Cas9-KO Strategy

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# Project Overview

**Project Name**

***Lgals3bp***

**Project type**

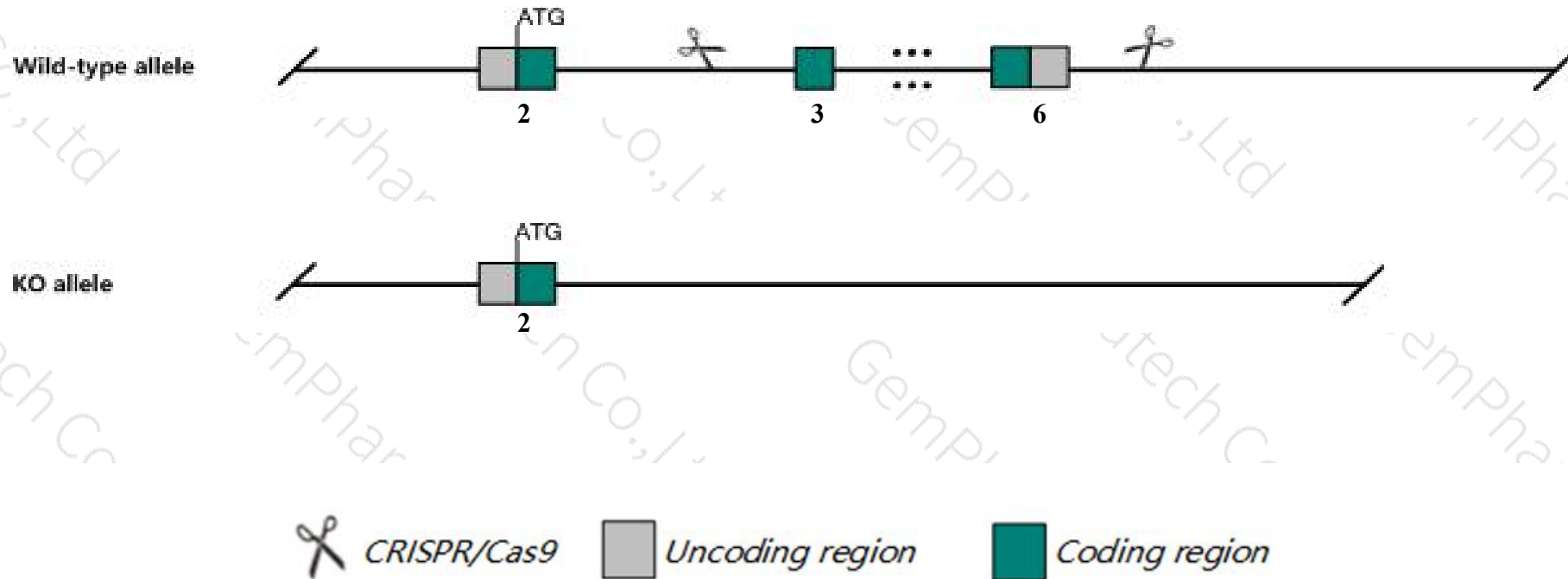
**Cas9-KO**

**Strain background**

**C57BL/6JGpt**

# Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Lgals3bp* gene. The schematic diagram is as follows:



- The *Lgals3bp* gene has 5 transcripts. According to the structure of *Lgals3bp* gene, exon3-exon6 of *Lgals3bp-201* (ENSMUST00000043722.9) transcript is recommended as the knockout region. The region contains 1682bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Lgals3bp* gene. The brief process is as follows: CRISPR/Cas9 syst

- According to the existing MGI data, Homozygous mutants are more susceptible to bacterial infection and overproduce IL-12, interferon-gamma and TNF-alpha.
- The *Lgals3bp* gene is located on the Chr11. 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)

**Lgals3bp** lectin, galactoside-binding, soluble, 3 binding protein [ *Mus musculus* (house mouse) ]

Gene ID: 19039, updated on 12-Aug-2019

## Summary

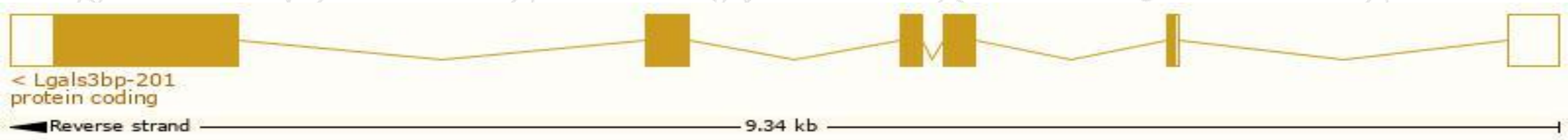
Official Symbol	Lgals3bp provided by <a href="#">MGI</a>
Official Full Name	lectin, galactoside-binding, soluble, 3 binding protein provided by <a href="#">MGI</a>
Primary source	<a href="#">MGI:MGI:99554</a>
See related	<a href="#">Ensembl:ENSMUSG00000033880</a>
Gene type	protein coding
RefSeq status	VALIDATED
Organism	<a href="#">Mus musculus</a>
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	90K; CyCAP; Ppicap; MAC-2BP; Tango10b
Expression	Broad expression in mammary gland adult (RPKM 204.1), duodenum adult (RPKM 185.6) and 19 other tissues <a href="#">See more</a>
Orthologs	<a href="#">human</a> <a href="#">all</a>

# Transcript information (Ensembl)

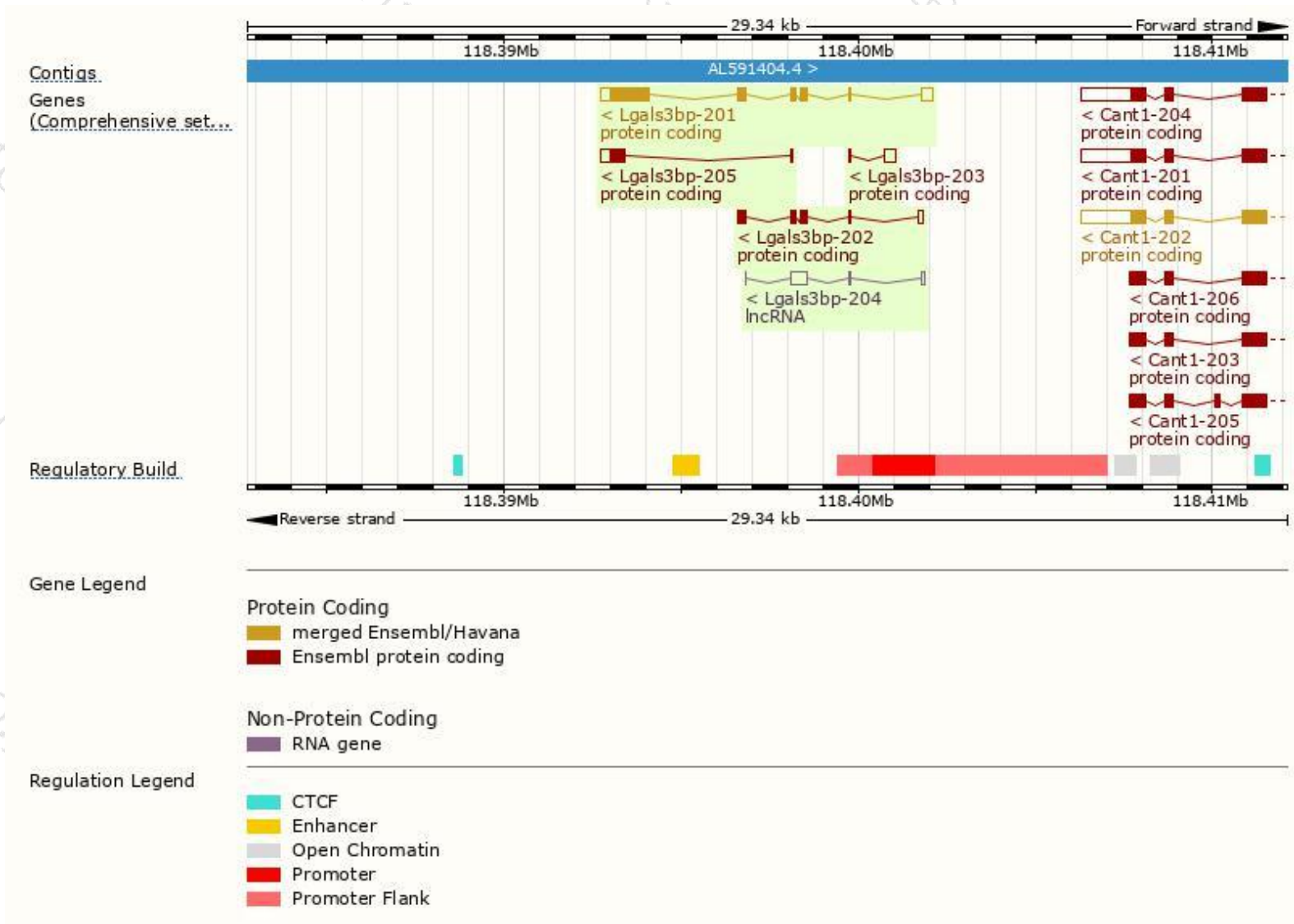
The gene has 5 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Lgals3bp-201	<a href="#">ENSMUST00000043722.9</a>	2330	<a href="#">577aa</a>	Protein coding	<a href="#">CCDS25701</a>	<a href="#">Q07797</a>	TSL:1 GENCODE basic APPRIS P1
Lgals3bp-202	<a href="#">ENSMUST00000106290.3</a>	798	<a href="#">204aa</a>	Protein coding	-	<a href="#">E9Q5X5</a>	CDS 3' incomplete TSL:3
Lgals3bp-205	<a href="#">ENSMUST00000144529.1</a>	686	<a href="#">139aa</a>	Protein coding	-	<a href="#">F6VRP8</a>	CDS 5' incomplete TSL:5
Lgals3bp-203	<a href="#">ENSMUST00000127054.1</a>	335	<a href="#">6aa</a>	Protein coding	-	-	CDS 3' incomplete TSL:5
Lgals3bp-204	<a href="#">ENSMUST00000141459.1</a>	647	No protein	lncRNA	-	-	TSL:5

The strategy is based on the design of *Lgals3bp-201* transcript,The transcription is shown below



# Genomic location distribution

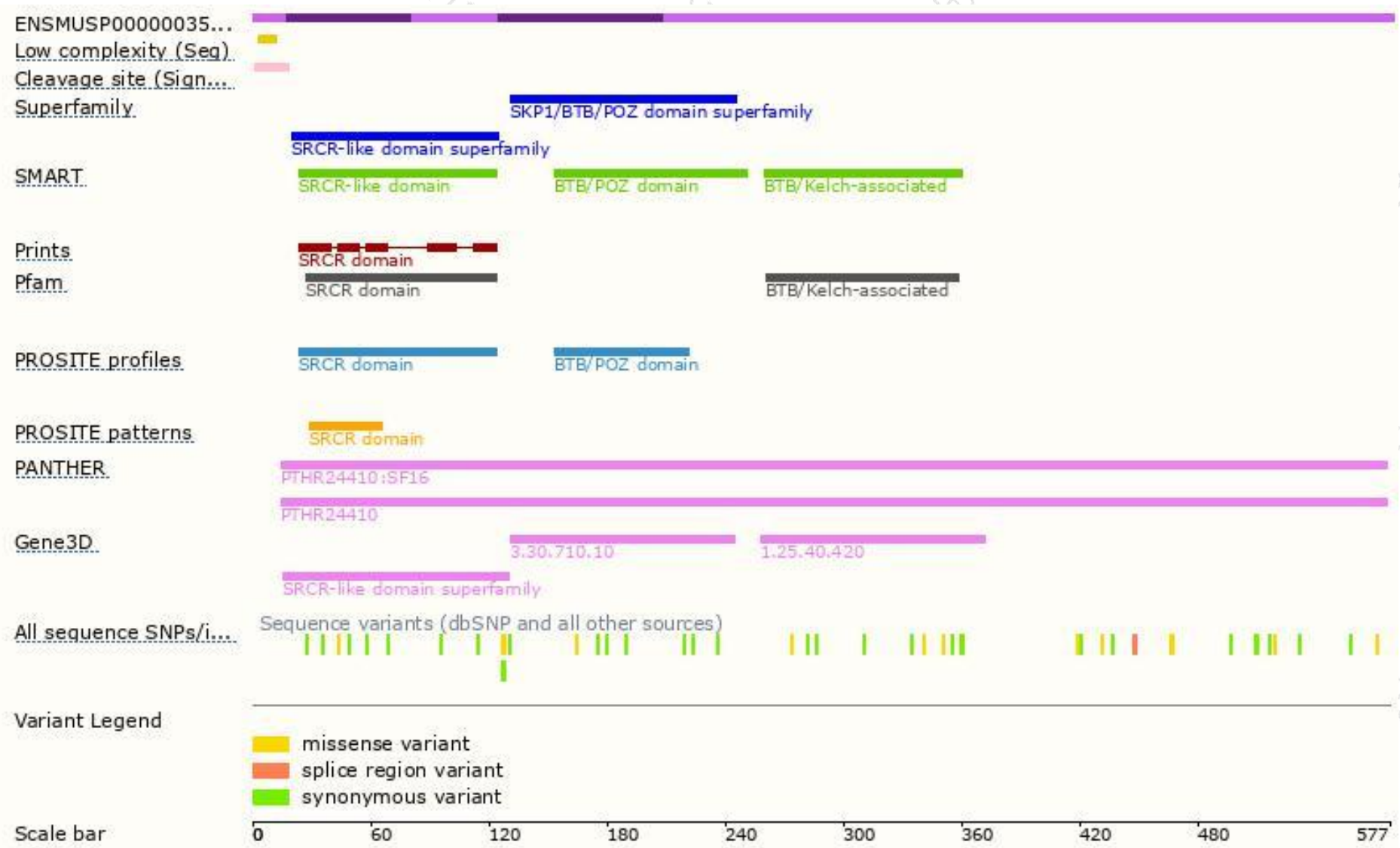




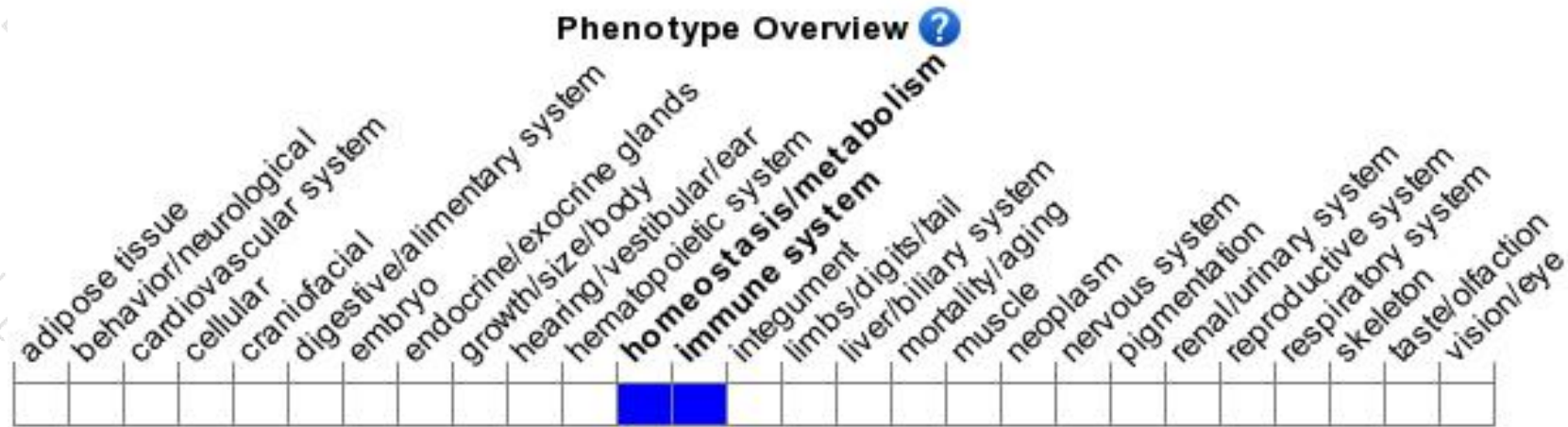
# Protein domain



集萃药康  
GemPharmatech



# 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 are more susceptible to bacterial infection and overproduce IL-12, interferon-gamma and TNF-alpha.

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

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