The Jackson Laboratory

B6.129S4-*Mbl1*^{tm1Kata} *Mbl2*^{tm1Kata}/J

Stock No: **006122** | MBL-A KO; MBL-C KO

Congenic, Targeted Mutation

Live mice available in varying quantities. Ask Customer Service for details.

PLACE ORDER

Email Download PDF Help

pathway. These mice may be useful in studies of host defense, including inflammation and infection, chemotherapy-induced neutropenia, apoptosis, and gastrointestinal ischemia/reperfusion models of the complement pathway.

When crossed to Mbl1 MBL2 KI mice (Stock No. 028892), the resulting triple mutant mice exhibit serum MBL2 protein levels that is approximately half the level found in inbred C57BL/6J mice, and lectin pathway activation similar to that observed in wildtype control mice. Induced hyperglycemia in the triple mutant mice results in increased serum MBL2 protein levels.

Donating Investigator

Kazue Takahashi, Massachusetts General Hospital

READ MORE +

GENETIC OVERVIEW

Genetic Background	Generation
	N7+N2F5 (2020-04-28 00:00:00)

Mbl1^{tm1Kata}

Allele Type	Gene Symbol	Gene Name
Targeted (Null/Knockout)	*Mbl1*	mannose-binding lectin (protein A) 1

Mbl2^{tm1Kata}

Allele Type	Gene Symbol	Gene Name
Targeted (Null/Knockout)	*Mbl2*	mannose-binding lectin (protein C) 2

VIEW GENETICS

RESEARCH APPLICATIONS

Cancer Research
Immunology, Inflammation and Autoimmunity Research
Research Tools
Cardiovascular Research

VIEW ALL RESEARCH APPLICATION

BASE PRICE

Starting at:

$236.78 Domestic price for female 4-week

VIEW PRICE LIST

Details

Detailed Description

Mice homozygous for both mannose-binding lectin (MBL)-A and MBL-C targeted mutations (termed MBL-null) are viable, fertile, and normal in size with no obvious developmental defects. Histological examination of multiple organs from 6-10 week old mice shows no abnormalities. MBL-null mice have no endogenous gene expression in liver (the principal site of MBL synthesis) and no protein detectable in serum. While the classical complement pathway is unaffected in MBL-null mice, the lectin-dependent complement pathway is non-functional. MBL-null mice have increased mortality following intravenous injection of *S. aureus* associated with abnormal serum levels of TNFalpha and IL-6 (decreased at 2h, elevated at 24h post injection). Cyclophosphamide-induced febrile neutropenic MBL-null mice inoculated with *S. aureus* have greatly increased susceptibility to abscess formation in kidney, liver, and lung (but not spleen). These same treated mice also have persistent bacteremia despite a recovery of circulating neutrophils and reduction of both circulating monocytes and resident peritoneal macrophages. Resident peritoneal macrophages harvested following intraperitoneal injection of *S. aureus* have impaired bacterial phagocytosis. MBL-null mice have an expansion of peritoneal B1 cells but a decreased splenic B cell p opulation. Double mutant mice have defective apoptotic cell clearance with no autoimmune phenotype out to 18 months of age. MBL-null mice have increased susceptibility to postburn infection with *P. aeruginosa* and defective hepatic clearance of virus following herpes simplex virus-2 injection. Double mutant mice insulted with gastrointestinal ischemia/reperfusion (I/R) are protected from intestinal, but not secondary lung, injury and C3 accumulation. Mutant mice are also protected from injury and C3 accumulation following bilateral renal I/R and myocardial I/R. These mice may be useful in studies of host defense, including inflammation and infection, chemotherapy-induced neutropenia, apoptosis, and I/R models of the complement pathway.

Development

Control Suggestions

Selected References

Genetics

Mbl1^{tm1Kata}

Mbl2^{tm1Kata}

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

Separated PCR:Mbl1alternate4
Separated PCR:Mbl1
Standard PCR:Mbl2
Probe:Mbl1 Probe
Genotyping resources and troubleshooting

Dietary Information

LabDiet® 5K52 formulation (6% fat)

Breeding Considerations

When maintaining a live colony, these mice are bred as homozygotes at both loci.

Additional Breeding and Husbandry Support

Mating System

Homozygote Homozygote x Homozygote Homozygot

Citation

When using the MBL-A KO; MBL-C KO mouse strain in a publication, please cite the originating article(s) and include JAX stock #006122 in your Materials and Methods section.

Animal Health Reports

Facility Barrier Level Descriptions

AX10 (Standard)

Pricing & Availability

Available

Live mice available in varying quantities. Ask Customer Service for details.

Domestic | **International**

Pricing effective for USA, Canada and Mexico shipping destinations

LIVE MOUSE

AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
5 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
6 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
7 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
8 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
9 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
10 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
11 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
12 weeks	Female	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78
	Male	Homozygous for Mbl1^{tm1Kata}, Homozygous for Mbl2^{tm1Kata}	$236.78

PAYMENT TERMS AND CONDITIONS

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

THE JACKSON LABORATORY'S GENOTYPE PROMISE

The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. **Therefore, we cannot guarantee a strain's phenotype will meet all expectations.** To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee breeding performance and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

Terms Of Use

TERMS OF USE

General Terms and Conditions

QUESTIONS ABOUT TERMS OF USE

ADDITIONAL USE RESTRICTIONS APPLY

Use of MICE by companies or for-profit entities requires a license prior to shipping.

LICENSING INFORMATION

Phone: 207-288-6470
Email: TechTran@jax.org

Related Strains

All

By Allele

By Gene

By Collection