

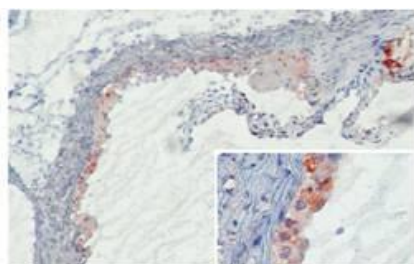
CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	MBL-C, Mouse, clone 14D12		
Catalog number	HM1038		
Lot number	-	Expiry date	-
Volume	1 ml	Amount	100 µg
Formulation	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3	Concentration	100 µg/ml
Host Species	Rat IgG2a	Conjugate	None
Endotoxin	N.A.	Purification	Protein G
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #	4		3,5			1		1,2
Yes	•		•			•		•
No								
N.D.		•		•	•		•	

N.D. = Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



IHC-F: MBL-C (clone 14D12) deposition in developing murine atherosclerotic lesions following 10 weeks of high fat feeding. MBL-C was detected in and around invading macrophages invading the intima (insert). MBL-C bound, similar to MBL-A, at sites of necrosis (upper right corner). No MBL-C binding was shown in the media or on fibrous caps covering the thickened intima.

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. It is recommended that solutions with a calcium concentration of 1 mM are used (14D12 is a calcium-dependent antibody).

- F: Cryostat sections (7µm) of mouse tissue were acetone fixed and stained o/n at 4°C in TBS/2% goat serum. (Ref.4)
- IA: Biotinylated 14D12 was used as detector in ELISA at 1µg/ml TBS/Tween-20/Ca (Ref.1)
- IF: Hyphae of *C. albicans* were fixed on poly-L-lysine coated slides with ice-cold acetone. Slides were incubated for 1h at RT with 14D12. (Ref.3)
- W: On a 12% non-reducing SDS-PAGE a prominent band of ca. 50Kda is detected. Under reducing conditions a 26 KDa band is detected. (Ref.2)
- Positive control: Mouse serum, Kidney tissue.

General Information

Description

Mannose binding lectin (MBL), also called mannose- or mannan-binding protein (MBP), is a member of the group of collectins. MBL is an important pattern-recognition receptor in the innate immune system. The protein mediates innate immune responses, such as activation of the complement lectin pathway and phagocytosis, to help fight infections. MBL is an oligomeric lectin that recognizes carbohydrates as mannose and N-acetylglucosamine on pathogens. MBL contains a cysteine rich, a collagen like and a carbohydrate recognition domain. Binding of MBL leads to the activation of MBL-associated serine proteases (MASP's). Activated MASP-2 cleaves C4 and C2 in a similar way as C1s do for the classical pathway (CP) leading to the formation of C4b2a, cleavage of the classical pathway convertase C3, and eventually complement activation up to the formation of the membrane attack complex. MBL is able to activate the complement pathway independent of the classical and alternative complement activation pathways.

MBL is predominantly synthesized by hepatocytes and has been isolated from the liver or serum of several vertebrate species. Only one form of human MBL has been characterized, while two forms are found in rhesus monkeys, rabbits, rats and mice. The mouse forms are known as MBL-A and MBL-C.

The MBL-C concentrations in serum are about 6-fold compared to that of MBL-A. MBL-A, but not MBL-C, was found to be an acute phase protein in casein and LPS-injection models. MBL-C exists in higher oligomeric forms than MBL-A. The monoclonal antibody 14D12 is a calcium-dependent antibody.

Immunogen	Purified MBL-C
Aliases	MBL, L-MB, MBP-C, Mbl2, Mannan Binding Lectin C
References	<ol style="list-style-type: none">1. Liu, H et al; Characterization and quantification of mouse mannan-binding lectins (MBL-A and MBL-C) and study of acute phase responses. <i>Scand J Immunol</i> 2001, <i>53</i>: 4892. Phaneuf, L et al; Binding of mouse mannan-binding lectin to different bacterial pathogens of mice. <i>Vet Immunol Immunopathol</i> 2007, <i>118</i>: 1293. Held, K et al; Increased susceptibility of complement factor B/C2 double knockout mice and mannan binding lectin knockout mice to systemic infection with <i>Candida albicans</i>. <i>Mol Immunol</i> 2008, <i>45</i>: 39344. Matthijsen, R et al; Macrophage-specific expression of mannose-binding lectin controls atherosclerosis in low-density lipoprotein receptor deficient mice. <i>Circulation</i> 2009, <i>119</i>: 21885. Pumidonning, W et al, Binding to complement factors and activation of the alternative pathway by <i>Acanthamoeba</i>. <i>Immunobiol.</i> 2010, <i>216</i>: 225
Storage&stability	Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.
Precautions	For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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Approved by Manager of QC
Robbert Zwinkels

Date
16/03/2018

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