

AM26335PU-N**Monoclonal Antibody to MBL-A - Purified****Quantity:** 0.1 mg**Concentration:** 0.1 mg/ml

Background: Mannose Binding Lectin (MBL), also called mannosebinding protein (MBP), is a calcium dependent oligomeric protein that belongs to the collectin family of proteins. It contains a collagen-like domain and a carbohydrate recognition domain enabling MBL to recognize carbohydrates (such as mannose and N-acetylglucosamine) on pathogens. MBL is able to activate the complement pathway independent of the classical and alternative complement activation pathways, by using attached mannose binding lectin-associated serine proteases (MASP-2) in an antibody- and C1q-independent manner. MASP-2 permits cleavage of C4 and C2 to form a C3 convertase. Once it has bound, MBL exhibits complement-dependent antibacterial activities such as microbial opsonization and/or microbial lysis via membrane attack complexes and therefore plays an important role in innate immunity. In human, MBL is encoded by a single gene, whereas in mice there are two homologous proteins, termed MBL-A and MBL-C. The MBL-A concentration in serum is about 6-fold lower compared to that of MBL-C... MBL-A, but not MBL-C, was found to be an acute phase protein in casein and LPS-injection models. Moreover, it has been shown that MBL-A deficient mice have aberrant antigen-specific IgM responses and suffer from increased susceptibility to infection.

Uniprot ID: [P39039](#)**NCBI:** [NP_034905.1](#)**GeneID:** [17194](#)**Host / Isotype:** Rat / IgG**Clone:** 8G6**Immunogen:** Purified mouse MBL-A**Format:** **State:** Liquid 0.2 µm filtered Ig fraction**Purification:** Protein G**Buffer System:** PBS**Preservatives:** 0.02% sodium azide**Stabilizers:** 0.1% bovine serum albumin

Applications: Immunohistochemistry on frozen sections (2,6): Tissue sections were fixed in 4% PBS-buffered formaldehyde and pretreated with 2% hydrogen peroxide in methanol for 20 minutes at 4°C to quench endogenous peroxidases. Primary antibody 8g6, 2µg/ml. As negative control rat IgG2a was used (Ref.2). The typical starting working dilution is 1:50.

Immunoassays (2).

Immunofluorescence (3,4).

Western blot (1): A non-reduced sample treatment was used. The band sizes are 191, 263 and 316 kDa (Ref.1). The typical starting working dilution is 1:50.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

This antibody detects MBL-A.

Species Reactivity:

Tested: Mouse

Add. Information:

Note that the monoclonal antibody 8G6 is a calcium-dependent antibody.

General Readings:

1. Liu H, Jensen L, Hansen S, Petersen SV, Takahashi K, Ezekowitz AB, et al. Characterization and quantification of mouse mannan-binding lectins (MBL-A and MBL-C) and study of acute phase responses. *Scand J Immunol.* 2001 May;53(5):489-97. PubMed PMID: 11309157.
2. Windbichler M, Echtenacher B, Takahashi K, Ezekowitz RA, Schwaeble WJ, Jensenius JC, et al. Investigations on the involvement of the lectin pathway of complement activation in anaphylaxis. *Int Arch Allergy Immunol.* 2006;141(1):11-23. Epub 2006 Jun 23. PubMed PMID: 16804320.
3. Held K, Thiel S, Loos M, Petry F. Increased susceptibility of complement factor B/C2 double knockout mice and mannan-binding lectin knockout mice to systemic infection with *Candida albicans*. *Mol Immunol.* 2008 Sep;45(15):3934-41. doi: 10.1016/j.molimm.2008.06.021. Epub 2008 Jul 30. PubMed PMID: 18672286.
4. Petry F, Jakobi V, Wagner S, Tessema TS, Thiel S, Loos M. Binding and activation of human and mouse complement by *Cryptosporidium parvum* (Apicomplexa) and susceptibility of C1q- and MBL-deficient mice to infection. *Mol Immunol.* 2008 Jul;45(12):3392-400. doi: 10.1016/j.molimm.2008.04.010. Epub 2008 May 23. PubMed PMID: 18501966.
5. Abe Y, Kuroda Y, Kuboki N, Matsushita M, Yokoyama N, Kojima N. Contribution of complement component C3 and complement receptor type 3 to carbohydrate-dependent uptake of oligomannose-coated liposomes by peritoneal macrophages. *J Biochem.* 2008 Nov;144(5):563-70. doi: 10.1093/jb/mvn101. Epub 2008 Aug 11. PubMed PMID: 18694897.
6. Matthijsen RA, de Winther MP, Kuipers D, van der Made I, Weber C, Herias MV, et al. Macrophage-specific expression of mannose-binding lectin controls atherosclerosis in low-density lipoprotein receptor-deficient mice. *Circulation.* 2009 Apr 28;119(16):2188-95. doi: 10.1161/CIRCULATIONAHA.108.830661. Epub 2009 Apr 20. PubMed PMID: 19380618.

Pictures:

MBL-A (8G6) deposition in developing murine atherosclerotic lesions. Staining of frozen tissue sections with antibody 8G6 (AM26335PU-N). Anti-mouse MBL-A at 2µg/ml (2h, RT). MBL-A was detected on the intima to media border as well as throughout the media (insert). Furthermore, extensive MBL-A deposition was seen at sites of necrosis (upper right corner).

