

MBL-C (HYB 131-01): sc-59299

BACKGROUND

Mannose-binding lectin protein C (MBL-C), also known as mannose-binding protein C; mannose-binding lectin 2, soluble (opsonic defect); mannan-binding lectin; mannan-binding protein; and soluble mannose-binding lectin, initiates the lectin branch of the innate immune response by binding to the surface of potentially pathogenic microorganisms and initiating complement fixation through an N-terminal collagen-like domain. MBL-C is a key component in immune response due to its ability to directly trigger neutralization of invading microorganisms by an Ab-independent mechanism. It binds to sugars on the surface of bacterial, fungal and parasitic cells through C-terminal, Ca²⁺-dependent carbohydrate-recognition domains. Mutations of human MBL are associated with immunodeficiency resulting from a reduction in the ability of the mutant MBL to initiate complement fixation. In human, two types of MBL-associated serine proteases (MASP-1 and MASP-2) and a truncated form of MASP-2, designated small MBL-associated protein (sMAP) or MAp19, complex with MBL to activate the lectin pathway of the complement system. Activated MASPs subsequently cleave and activate downstream components of the complement pathway.

REFERENCES

1. Heise, C., Nicholls, J., Leamy, E. and Wallis, R. 2000. Impaired secretion of rat mannose-binding protein resulting from mutations in the collagen-like domain. *J. Immunol.* 165: 1403-1409.
2. Matsushita, M., Thiel, S., Jensenius, J.C., Terai, I. and Fujita, T. 2000. Proteolytic activities of two types of mannose-binding lectin-associated serine protease. *J. Immunol.* 165: 2637-2642.
3. Chen, C.B. and Wallis, R. 2001. Stoichiometry of complexes between mannose-binding protein and its associated serine proteases: defining functional units for complement activation. *J. Biol. Chem.* 276: 25894-25902.
4. Endo, M., Ohi, H., Satomura, A., Hidaka, M., Ohsawa, I., Fujita, T., Kanmatsuse, K., Matsushita, M. and Fujita, T. 2001. Regulation of *in situ* complement activation via the lectin pathway in patients with IgA nephropathy. *Clin. Nephrol.* 55: 185-191.
5. Thielens, N.M., Cseh, S., Thiel, S., Vorup-Jensen, T., Rossi, V., Jensenius, J.C. and Arlaud, G.J. 2001. Interaction properties of human mannan-binding lectin (MBL)-associated serine proteases-1 and -2, MBL-associated protein 19, and MBL. *J. Immunol.* 166: 5068-5077.

CHROMOSOMAL LOCATION

Genetic locus: MBL2 (human) mapping to 10q21.1.

SOURCE

MBL-C (HYB 131-01) is a mouse monoclonal antibody raised against full length MBL of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MBL-C (HYB 131-01) is recommended for detection of MBL-C from serum or plasma of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MBL-C siRNA (h): sc-35869, MBL-C shRNA Plasmid (h): sc-35869-SH and MBL-C shRNA (h) Lentiviral Particles: sc-35869-V.

Molecular Weight of MBL-C subunit: 32 kDa.

Molecular Weight of MBL-C trimer: 96 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or DU 145 cell lysate: sc-2268.

SELECT PRODUCT CITATIONS

1. Tjernberg, A.R., Woksepp, H., Sandholm, K., Johansson, M., Dahle, C., Ludvigsson, J.F., Bonnedahl, J., Nilsson, P. and Ekdahl, K.N. 2020. Celiac disease and complement activation in response to *Streptococcus pneumoniae*. *Eur. J. Pediatr.* 179: 133-140.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.