SANTA CRUZ BIOTECHNOLOGY, INC.

MASP-3 (CD450): sc-80177

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mannose (or mannan)-binding lectin (MBL), also known as serum mannose-binding protein (MBP), initiates the lectin fork 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 is a key component in immune response in that it can directly trigger neutralization of invading microorganisms by an Ab-independent mechanism. In human, three types of MBL-associated serine proteases, MASP-1, MASP-2 and MASP-3, and a truncated form of MASP-2 (small MBL-associated protein, also called 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. MASP-3 is an alternatively spliced product from the MASP-1 gene. The heavy/A chain is identical to that of MASP-1 but the light/B chain is entirely different. MASP-3 may function to inhibit MASP-2 by competing for MBL binding and inhibiting the activation of MBL-associated MASP-2.

REFERENCES

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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.
6. Dahl, M.R., Thiel, S., Matsushita, M., Fujita, T., Willis, A.C., Christensen, T., Vorup-Jensen, T. and Jensenius, J.C. 2001. MASP-3 and its association with distinct complexes of the mannan-binding lectin complement activation pathway. Immunity 15: 127-135.
7. Kuraya, M., Matsushita, M., Endo, Y., Thiel, S. and Fujita, T. 2002. Expression of H-ficolin/Hakata antigen, mannose-binding lectin-associated serine protease (MASP)-1 and MASP-3 by human glioma cell line T98G. Int. Immunol. 15: 109-117.
8. Endo, Y., Nonaka, M., Saiga, H., Kakinuma, Y., Matsushita, A., Takahashi, M., Matsushita, M. and Fujita, T. 2003. Origin of mannose-binding lectin-associated serine protease (MASP)-1 and MASP-3 involved in the lectin complement pathway traced back to the invertebrate, amphioxus. J. Immunol. 170: 4701-4707.

CHROMOSOMAL LOCATION

Genetic locus: MASP1 (human) mapping to 3q27.3.

SOURCE

MASP-3 (CD450) is a mouse monoclonal antibody raised against amino acids 450-721 of MASP-3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

MASP-3 (CD450) is recommended for detection of MASP-3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of MASP-3: 107 kDa.

SELECT PRODUCT CITATIONS

1. Pagliara, V., Parafati, M., Adornetto, A., White, M.C., Masullo, M., Grimaldi, M. and Arcone, R. 2018. Dibutyryl cAMP- or interleukin-6-induced astrocytic differentiation enhances mannose binding lectin (MBL)-associated serine protease (MASP)-1/3 expression in C6 glioma cells. Arch. Biochem. Biophys. 653: 39-49.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

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.