

MASP-1/3 (N-19): sc-17904

BACKGROUND

Mannose (or mannan)-binding lectin (MBL), also known as serum mannose-binding protein (MBP), 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 is a key component in immune response in that it can directly trigger neutralization of invading microorganisms by an Ab-independent mechanism. 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, 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; sMAP or MAP19) complex with MBL to activate the lectin pathway of the complement system. MASP-3 is an alternatively spliced product from the MASP-1 gene. The heavy/A chains are identical between MASP-1 and MASP-3 but the light/B chains are entirely different. Activated MASPs subsequently cleave and activate downstream components of the complement pathway.

REFERENCES

1. Heise, C., et al. 2000. Impaired secretion of rat mannose-binding protein resulting from mutations in the collagen-like domain. *J. Immunol.* 165: 1403-1409.
2. Matsushita, M., et al. 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., et al. 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., et al. 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., et al. 2001. MASP-3 and its association with distinct complexes of the mannan-binding lectin complement activation pathway. *Immunity* 15: 127-135.

CHROMOSOMAL LOCATION

Genetic locus: MASP1 (human) mapping to 3q27.3; Masp1 (mouse) mapping to 16 B1.

SOURCE

MASP-1/3 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MASP-1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17904 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MASP-1/3 (N-19) is recommended for detection of MASP-1/3 heavy chain of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:300).

MASP-1/3 (N-19) is also recommended for detection of MASP-1/3 heavy chain in additional species, including canine.

Suitable for use as control antibody for MASP-1/3 siRNA (h): sc-45349, MASP-1/3 siRNA (m): sc-45350, MASP-1/3 shRNA Plasmid (h): sc-45349-SH, MASP-1/3 shRNA Plasmid (m): sc-45350-SH, MASP-1/3 shRNA (h) Lentiviral Particles: sc-45349-V and MASP-1/3 shRNA (m) Lentiviral Particles: sc-45350-V.

Molecular Weight of MASP-1/3 Proenzyme: 90 kDa.

Molecular Weight of MASP-1/3 Heavy chain: 65 kDa.

Molecular Weight of MASP-1/3 Light chain: 36 kDa.

Positive Controls: rat testis extract: sc-2400, rat liver extract: sc-2395 or mouse liver extract: sc-2256.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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