

MASP-1/3 (F-12): sc-166815

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.

CHROMOSOMAL LOCATION

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

SOURCE

MASP-1/3 (F-12) is a mouse monoclonal antibody raised against amino acids 171-430 mapping within an internal region of MASP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MASP-1/3 (F-12) is available conjugated to agarose (sc-166815 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166815 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166815 PE), fluorescein (sc-166815 FITC), Alexa Fluor® 488 (sc-166815 AF488), Alexa Fluor® 546 (sc-166815 AF546), Alexa Fluor® 594 (sc-166815 AF594) or Alexa Fluor® 647 (sc-166815 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166815 AF680) or Alexa Fluor® 790 (sc-166815 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

MASP-1/3 (F-12) is recommended for detection of MASP-1/3 heavy chain of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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 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.

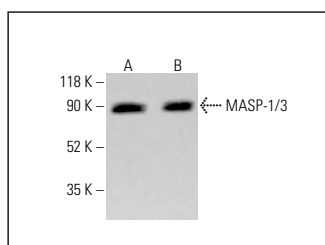
Molecular Weight of MASP-1/3 light chain: 36 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HCT-116 whole cell lysate: sc-364175 or P19 cell lysate: sc-24760.

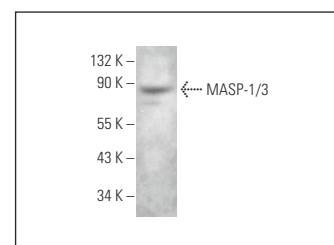
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MASP-1/3 (F-12): sc-166815. Western blot analysis of MASP-1/3 expression in K-562 (A) and HCT-116 (B) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



MASP-1/3 (F-12): sc-166815. Western blot analysis of MASP-1/3 expression in P19 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Alberts, A., et al. 2020. C-reactive protein (CRP) recognizes uric acid crystals and recruits proteases C1 and MASP1. *Sci. Rep.* 10: 6391.

RESEARCH USE

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