SANTA CRUZ BIOTECHNOLOGY, INC.

MD-1 (F-5): sc-390613

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RP105 (CD180) was originally discovered as a mouse B cell surface molecule that transmits an activation signal. This signal leads to resistance against irradiation-induced apoptosis and massive B cell proliferation. RP105 is associated with another molecule, MD-1, which has an important role in the cell surface expression of RP105. MD-1, also known as lymphocyte antigen 68 and RP105 associated protein, associates with and regulates the cell surface expression of RP105. RP105/MD-1 constitutes an LPS-signaling complex on B cells and, like MD-2, enhances the LPS signaling via TLR4. MD-1 contains 162 amino acids and has a predicted 19 amino acid signal peptide and 2 N-glycosylation sites. MD-1 is highly expressed in B cells, monocytes and tonsil, and is localized on the surface of cells despite its lack of a transmembrane region.

REFERENCES

1. Miura, Y., et al. 1998. RP105 is associated with MD-1 and transmits an activation signal in human B cells. Blood 92: 2815-2822.
2. Miyake, K., et al. 2000. Innate recognition of lipopolysaccharide by Toll-like receptor 4/MD-2 and RP105/MD-1. J. Endotoxin Res. 6: 389-391.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605241. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Nagai, Y., et al. 2002. Requirement for MD-1 in cell surface expression of RP105/CD180 and B-cell responsiveness to lipopolysaccharide. Blood 99: 1699-1705.
5. Clark, D.A., et al. 2003. MD-1 is a critical part of the mechanism causing Th1-cytokine-triggered murine fetal loss syndrome. Am. J. Reprod. Immunol. 49: 297-307.
6. Hadidi, S. and Gorczynski, R.M. 2004. MD-1 expression regulates direct and indirect allorecognition. Tissue Antigens 63: 132-141.

CHROMOSOMAL LOCATION

Genetic locus: LY86 (human) mapping to 6p25.1; Ly86 (mouse) mapping to 13 A3.3.

SOURCE

MD-1 (F-5) is a mouse monoclonal antibody raised against amino acids 107-158 mapping near the C-terminus of MD-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MD-1 (F-5) is available conjugated to agarose (sc-390613 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390613 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390613 PE), fluorescein (sc-390613 FITC), Alexa Fluor® 488 (sc-390613 AF488), Alexa Fluor® 546 (sc-390613 AF546), Alexa Fluor® 594 (sc-390613 AF594) or Alexa Fluor® 647 (sc-390613 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390613 AF680) or Alexa Fluor® 790 (sc-390613 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MD-1 (F-5) is recommended for detection of MD-1 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 MD-1 siRNA (h): sc-40734, MD-1 siRNA (m): sc-40735, MD-1 shRNA Plasmid (h): sc-40734-SH, MD-1 shRNA Plasmid (m): sc-40735-SH, MD-1 shRNA (h) Lentiviral Particles: sc-40734-V and MD-1 shRNA (m) Lentiviral Particles: sc-40735-V.

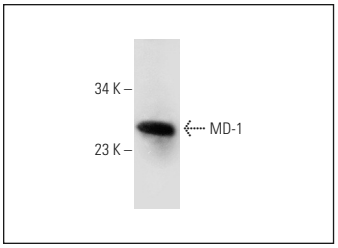
Molecular Weight of MD-1: 28 kDa.

Positive Controls: human tonsil tissue extract: sc-364263 or RAW 264.7 whole cell lysate: sc-2211.

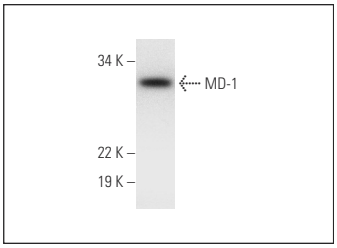
RECOMMENDED SUPPORT REAGENTS

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



MD-1 (F-5): sc-390613. Western blot analysis of MD-1 expression in human tonsil tissue extract.



MD-1 (F-5): sc-390613. Western blot analysis of MD-1 expression in RAW 264.7 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Xiong, X., et al. 2017. Novel protective role of myeloid differentiation 1 in pathological cardiac remodelling. Sci. Rep. 7: 41857.

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.