

# MD-1 (H-12): sc-393238

## 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 two 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<sup>™</sup>. 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.
7. Tsuneyoshi, N., et al. 2004. The functional and structural properties of MD-2 required for lipopolysaccharide binding are absent in MD-1. *J. Immunol.* 174: 340-344.

## CHROMOSOMAL LOCATION

Genetic locus: LY86 (human) mapping to 6p25.1.

## SOURCE

MD-1 (H-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 24-51 near the N-terminus of MD-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393238 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

MD-1 (H-12) is recommended for detection of MD-1 of 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), 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 MD-1 siRNA (h): sc-40734, MD-1 shRNA Plasmid (h): sc-40734-SH and MD-1 shRNA (h) Lentiviral Particles: sc-40734-V.

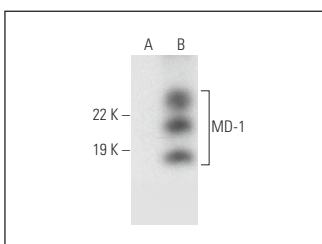
Molecular Weight of MD-1: 28 kDa.

Positive Controls: MD-1 (h): 293T Lysate: sc-115485.

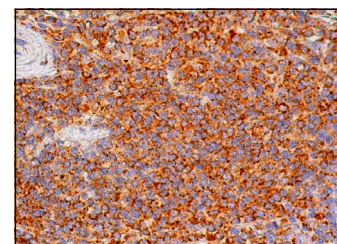
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



MD-1 (H-12): sc-393238. Western blot analysis of MD-1 expression in non-transfected: sc-117752 (A) and human MD-1 transfected: sc-115485 (B) 293T whole cell lysates.



MD-1 (H-12): sc-393238. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp.

## 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.