SANTA CRUZ BIOTECHNOLOGY, INC.

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

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., Shimazu, R., Miyake, K., Akashi, S., Ogata, H., Yamashita, Y., Narisawa, Y. and Kimoto, M. 1998. RP105 is associated with MD-1 and transmits an activation signal in human B cells. Blood 92: 2815-2822.
2. Miyake, K., Ogata, H., Nagai, Y., Akashi, S. and Kimoto, M. 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., Shimazu, R., Ogata, H., Akashi, S., Sudo, K., Yamasaki, H., Hayashi, S., Iwakura, Y., Kimoto, M. and Miyake, K. 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., Yu, G., Arck, P.C., Levy, G.A. and Gorczynski, R.M. 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., Fukudome, K., Kohara, J., Tomimasu, R., Gauchat, J.F., Nakatake, H. and Kimoto, M. 2004. The functional and structural properties of MD-2 required for lipopolysaccharide binding are absent in MD-1. J. Immunol. 174: 340-344.
8. Zhang, X., Chen, B.C., Xiang, F.L., Chang, S., Zhou, H.M., Du, D.F., Yuan, J. and Chen, Z.K. 2005. Inhibition of MD-1 expression by immunosuppressants or antisense oligodeoxynucleotides on skin allograft survival in mice. Transplant. Proc. 37: 1965-1967.
9. LocusLink Report (LocusID: 17084). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

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

RESEARCH USE

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

PRODUCT

MD-1 (h): 293T Lysate represents a lysate of human MD-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MD-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive MD-1 antibodies. Recommended use: 10-20 µl per lane.

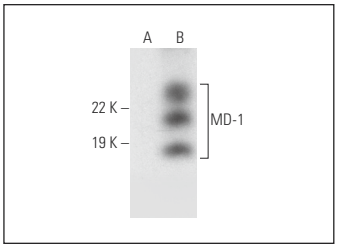
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MD-1 (H-12): sc-393238 is recommended as a positive control antibody for Western Blot analysis of enhanced human MD-1 expression in MD-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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