

SH2D1A (h): 293T Lysate: sc-174562

BACKGROUND

SH2D1A, also SH2 domain protein 1A, SAP and CD150/SLAM (signaling lymphocyte activation molecule)-associated protein, influences signaling pathways involving SLAM molecules at the interface between T and B cells. SH2D1A modulates SLAM by blocking the recruitment of tyrosine phosphatase SHP2 to the phosphorylated cytoplasmic domain of SLAM. SLAM activation mediates expansion of activated T cells during immune responses, induces production of interferon- γ and changes the functional profile of subsets of T cells. SH2D1A is a hydrophilic, 128 amino acid protein that is 96% homologous to the mouse protein in both SH2 and tail domains. SH2D1A is present in all major subsets of T cells, including CD4⁺, CD45RO⁺, CD45RA⁺ and CD8⁺, but not in B cells. SH2D1A can interact via an SH2 domain with a motif (TIYXXV) present in the cytoplasmic tail of cell-surface receptors SLAM (CD150), CD84, CD229 (LY9) and CD244 (2B4).

REFERENCES

1. Sayos, J., et al. 1998. The X-linked lymphoproliferative disease gene product SAP regulates signals induced through the co-receptor SLAM. *Nature* 395: 462-469.
2. Nagy, N., et al. 2000. SH2D1A and SLAM protein expression in human lymphocytes and derived cell lines. *Int. J. Cancer* 88: 439-447.
3. Morra, M., et al. 2001. Characterization of SH2D1A missense mutations identified in X-linked lymphoproliferative disease patients. *J. Biol. Chem.* 276: 36809-36816.
4. Mihalap, S.V., et al. 2004. The adaptor protein SH2D1A regulates signaling through CD150 (SLAM) in B cells. *Blood* 104: 4063-4070.
5. Hron, J.D., et al. 2004. SH2D1A regulates T-dependent humoral autoimmunity. *J. Exp. Med.* 200: 261-266.
6. Morra, M., et al. 2005. Defective B cell responses in the absence of SH2D1A. *Proc. Natl. Acad. Sci. USA* 102: 4819-4823.
7. Gao, N., et al. 2006. B cell induction of IL-13 expression in NK cells: role of CD244 and SLAM-associated protein. *J. Immunol.* 176: 2758-2764.
8. Bhat, R., et al. 2006. Fine-tuning of immune responses by SLAM-related receptors. *J. Leukoc. Biol.* 79: 417-424.

CHROMOSOMAL LOCATION

Genetic locus: SH2D1A (human) mapping to Xq25.

PRODUCT

SH2D1A (h): 293T Lysate represents a lysate of human SH2D1A transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

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.

RESEARCH USE

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

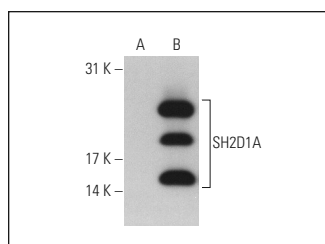
APPLICATIONS

SH2D1A (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SH2D1A antibodies. Recommended use: 10-20 μ l per lane.

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

SH2D1A (1D12): sc-53859 is recommended as a positive control antibody for Western Blot analysis of enhanced human SH2D1A expression in SH2D1A transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



SH2D1A (1D12): sc-53859. Western blot analysis of SH2D1A expression in non-transfected: sc-117752 (A) and human SH2D1A transfected: sc-174562 (B) 293T whole cell lysates.

PROTOCOLS

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