

SH2D1A (A-8): sc-398118

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

- 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.
- Nagy, N., et al. 2000. SH2D1A and SLAM protein expression in human lymphocytes and derived cell lines. *Int. J. Cancer* 88: 439-447.
- Morra, M., et al. 2001. Characterization of SH2D1A missense mutations identified in X-linked lymphoproliferative disease patients. *J. Biol. Chem.* 276: 36809-36816.
- Mikhalap, S.V., et al. 2004. The adaptor protein SH2D1A regulates signaling through CD150 (SLAM) in B cells. *Blood* 104: 4063-4070.
- Hron, J.D., et al. 2004. SH2D1A regulates T-dependent humoral autoimmunity. *J. Exp. Med.* 200: 261-266.

CHROMOSOMAL LOCATION

Genetic locus: SH2D1A (human) mapping to Xq25; Sh2d1a (mouse) mapping to X A4.

SOURCE

SH2D1A (A-8) is a mouse monoclonal antibody raised against amino acids 1-128 representing full length SH2D1A of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SH2D1A (A-8) is available conjugated to agarose (sc-398118 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398118 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398118 PE), fluorescein (sc-398118 FITC), Alexa Fluor[®] 488 (sc-398118 AF488), Alexa Fluor[®] 546 (sc-398118 AF546), Alexa Fluor[®] 594 (sc-398118 AF594) or Alexa Fluor[®] 647 (sc-398118 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398118 AF680) or Alexa Fluor[®] 790 (sc-398118 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

SH2D1A (A-8) is recommended for detection of SH2D1A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 SH2D1A siRNA (h): sc-40819, SH2D1A siRNA (m): sc-40820, SH2D1A shRNA Plasmid (h): sc-40819-SH, SH2D1A shRNA Plasmid (m): sc-40820-SH, SH2D1A shRNA (h) Lentiviral Particles: sc-40819-V and SH2D1A shRNA (m) Lentiviral Particles: sc-40820-V.

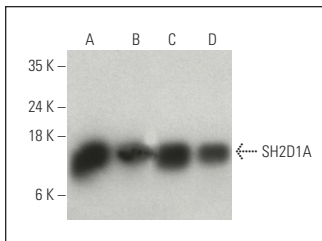
Molecular Weight of SH2D1A: 16 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, MOLT-4 cell lysate: sc-2233 or Jurkat whole cell lysate: sc-2204.

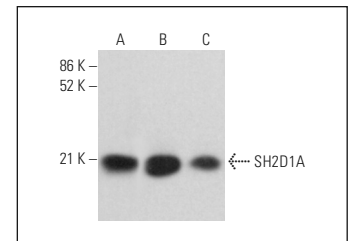
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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-IgG λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



SH2D1A (A-8) HRP: sc-398118 HRP. Direct western blot analysis of SH2D1A expression in Jurkat (A), MOLT-4 (B), CCRF-CEM (C) and SUP-T1 (D) whole cell lysates.



SH2D1A (A-8): sc-398118. Western blot analysis of SH2D1A expression in Jurkat (A), MOLT-4 (B) and U266 (C) whole cell lysates. Detection reagent used: m-IgG λ BP-HRP (Cruz Marker): sc-516132-CM.

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.

PROTOCOLS

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