

SIT (F-9): sc-271933

BACKGROUND

T lymphocytes express several low molecular mass transmembrane adaptor proteins that recruit SH2 domain-containing intracellular molecules to the cell membrane via tyrosine-based signaling pathways. One such protein, SIT (SHP2 interacting transmembrane adaptor protein) is a disulfide-linked homodimeric glycoprotein that is expressed in lymphocytes. SIT is reduced to half its molecular mass via endoglycosidase treatment. It contains five potential tyrosine phosphorylation sites, suggesting a role in TCR-mediated recruitment of SH2 domain-containing intracellular signaling molecules to the plasma membrane. SIT interacts with SHP2 and also with the adaptor protein GRB2. In addition, it is a substrate for the Src protein kinases Fyn, Lck and ZAP-70.

REFERENCES

1. Marie-Cardine, A., Kirchgessner, H., Bruyns, E., Shevchenko, A., Mann, M., Autschbach, F., Ratnofsky, S., Meuer, S. and Schraven, B. 1999. SHP2-interacting transmembrane adaptor protein (SIT), a novel disulfide-linked dimer regulating human T cell activation. *J. Exp. Med.* 189: 1181-1194.
2. Judd, B.A. and Koretzky, G.A. 2000. Antigen specific T lymphocyte activation. *Rev. Immunogenet.* 2: 164-174.
3. Zhang, W. and Samelson, L.E. 2000. The role of membrane-associated adaptors in T cell receptor signalling. *Semin. Immunol.* 12: 35-41.
4. Pfrepper, K.I., Marie-Cardine, A., Simeoni, L., Kuramitsu, Y., Leo, A., Spicka, J., Hilgert, I., Scherer, J. and Schraven, B. 2001. Structural and functional dissection of the cytoplasmic domain of the transmembrane adaptor protein SIT (SHP2-interacting transmembrane adaptor protein). *Eur. J. Immunol.* 31: 1825-1836.
5. LocusLink Report (LocusID: 27240). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: SIT1 (human) mapping to 9p13.3; Sit1 (mouse) mapping to 4 B1.

SOURCE

SIT (F-9) is a mouse monoclonal antibody raised against amino acids 1-196 representing full length SIT of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SIT (F-9) is available conjugated to agarose (sc-271933 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271933 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271933 PE), fluorescein (sc-271933 FITC), Alexa Fluor® 488 (sc-271933 AF488), Alexa Fluor® 546 (sc-271933 AF546), Alexa Fluor® 594 (sc-271933 AF594) or Alexa Fluor® 647 (sc-271933 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271933 AF680) or Alexa Fluor® 790 (sc-271933 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

SIT (F-9) is recommended for detection of SIT 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 SIT siRNA (h): sc-45334, SIT siRNA (m): sc-45335, SIT shRNA Plasmid (h): sc-45334-SH, SIT shRNA Plasmid (m): sc-45335-SH, SIT shRNA (h) Lentiviral Particles: sc-45334-V and SIT shRNA (m) Lentiviral Particles: sc-45335-V.

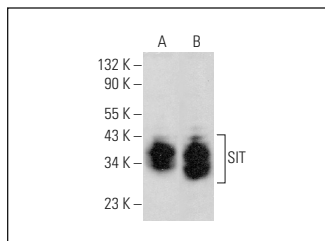
Molecular Weight of SIT: 40 kDa.

Positive Controls: JM1 whole cell lysate: sc-364233, MOLT-4 cell lysate: sc-2233 or Jurkat whole cell lysate: sc-2204.

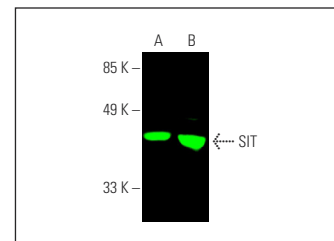
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-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



SIT (F-9): sc-271933. Western blot analysis of SIT expression in MOLT-4 (A) and JM1 (B) whole cell lysates.



SIT (F-9): sc-271933. Near-Infrared western blot analysis of SIT expression in JM1 (A) and Jurkat (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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

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