SANTA CRUZ BIOTECHNOLOGY, INC.

SIT (FL-196): sc-33811

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-linke 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 (LocusID: 27240). http://www.ncbi.nlm.nih.gov/LocusLink.

CHROMOSOMAL LOCATION

Genetic locus: SIT1 (human) mapping to 9p13-p12; Sit1 (mouse) mapping to 4 B1.

SOURCE

SIT (FL-196) is a rabbit polyclonal antibody raised against amino acids 1-196 representing full length SIT of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

SIT (FL-196) is recommended for detection of SIT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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: HuT 78 whole cell lysate: sc-2208 or CTLL-2 cell lysate: sc-2242.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Yu, M., et al. 2006. Scaffolding adapter GRB2-associated binder 2 requires Syk to transmit signals from FcεRI. J. Immunol. 176: 2421-2429.

RESEARCH USE

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