SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin α1 (TS2/7): sc-23942

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. The 16 α and 8 β subunits heterodimerize to produce more than 20 different receptors. Most integrin receptors bind ligands that are components of the extracellular matrix, including Fibronectin, Collagen and Vitronectin. Certain integrins can also bind to soluble ligands such as Fibrinogen, or to counterreceptors on adjacent cells such as the intracellular adhesion molecules (ICAMs), leading to aggregation of cells. Ligands serve to cross-link or cluster integrins by binding to adjacent integrin receptors; both receptor clustering and ligand occupancy are necessary for the activation of integrin-mediated responses. In addition to mediating cell adhesion and cytoskeletal organization, integrins function as signaling receptors. Signals transduced by integrins play a role in many biological processes, including cell growth, differentiation, migration and apoptosis.

REFERENCES

1. Hynes, R.O. 1992. Integrins: versatility, modulation and signaling in cell adhesion. Cell 69: 11-25.
2. Miyamoto, S., Akiyama, S.K. and Yamada, K.M. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. Science 267: 883-885.
3. Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. Science 268: 233-239.
4. Sheppard, D. 1996. Epithelial integrins. Bioessays 18: 655-660.
5. Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. Bioessays 18: 911-917.

CHROMOSOMAL LOCATION

Genetic locus: ITGA1 (human) mapping to 5q11.2.

SOURCE

Integrin α1 (TS2/7) is a mouse monoclonal antibody raised against a cytotoxic T lymphocyte cell line of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available azide-free for mitogenic activity assays, sc-23942 L, 200 µg/0.1 ml.

Available as phycoerythrin (sc-23942 PE) or fluorescein (sc-23942 FITC) conjugates for flow cytometry, 100 tests.

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.

APPLICATIONS

Integrin α1 (TS2/7) is recommended for detection of Integrin α1 of 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 flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for Integrin α1 siRNA (h): sc-43125, Integrin α1 shRNA Plasmid (h): sc-43125-SH and Integrin α1 shRNA (h) Lentiviral Particles: sc-43125-V.

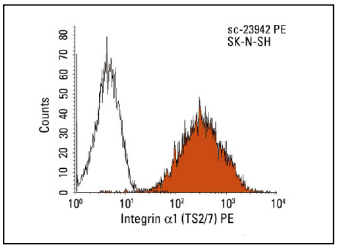
Molecular Weight of Integrin α1: 200 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Integrin α1 (TS2/7) PE: sc-23942 PE. FCM analysis of SK-N-SH cells. Black line histogram represents the isotype control, normal mouse IgG_1.

SELECT PRODUCT CITATIONS

1. Abair, T.D., et al. 2008. Functional analysis of the cytoplasmic domain of the integrin α1 subunit in endothelial cells. Blood 112: 3242-3254.
2. Jovanovic, M., et al. 2010. Effects of anti-phospholipid antibodies on a human trophoblast cell line (HTR-8/SVneo). Acta Histochem. 112: 34-41.
3. Chen, X., et al. 2010. Integrin α1β1 regulates epidermal growth factor receptor activation by controlling peroxisome proliferator-activated receptor γ-dependent caveolin-1 expression. Mol. Cell. Biol. 30: 3048-3058.

PROTOCOLS

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