SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin αL (M17/4): sc-18863

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. The 16α and 8β 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 counter-receptors 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., et al. 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.
6. Rose, D.M., et al. 2003. Paxillin binding to the α4 Integrin subunit stimulates LFA-1 (integrin αLβ2)-dependent T cell migration by augmenting the activation of focal adhesion kinase/proline-rich tyrosine kinase-2. J. Immunol. 170: 5912-5918.
7. Tng, E., et al. 2004. The Integrin αLβ2 hybrid domain serves as a link for the propagation of activation signal from its stalk regions to the I-like domain. J. Biol. Chem. 279: 54334-54339.
8. Kim, M., et al. 2004. The primacy of affinity over clustering in regulation of adhesiveness of the Integrin αLβ2. J. Cell Biol. 167: 1241-1253.

CHROMOSOMAL LOCATION

Genetic locus: Itgal (mouse) mapping to 7 F3.

SOURCE

Integrin αL (M17/4) is a rat monoclonal antibody raised by immunizing rats with cytotoxic T cells from C57BL/6 mice immunized with P815 cells.

STORAGE

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

PRODUCT

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

Available as phycoerythrin (sc-18863 PE) or fluorescein (sc-18863 FITC) conjugates for flow cytometry, 100 tests.

Available azide-free for biological studies, sc-18863 L, 200 µg/0.1 ml.

APPLICATIONS

Integrin αL (M17/4) is recommended for detection of Integrin αL of mouse origin by 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).

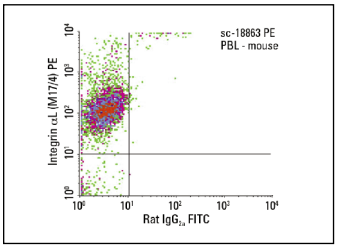
Suitable for use as control antibody for Integrin αL siRNA (m): sc-35692, Integrin αL shRNA Plasmid (m): sc-35692-SH and Integrin αL shRNA (m) Lentiviral Particles: sc-35692-V.

Molecular Weight of Integrin αL: 180 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 2) Immunofluorescence: use goat anti-rat IgG-FITC: sc-2011 (dilution range: 1:100-1:400) or goat anti-rat IgG-TR: sc-2782 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Integrin αL (M17/4) PE: sc-18863 PE. FCM analysis of mouse peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal rat IgG_{2a}: sc-2872.

STORAGE

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RESEARCH USE

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

PROTOCOLS

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