SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin αL (38): sc-7306

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., 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 (human) mapping to 16p11.2.

SOURCE

Integrin αL (38) is a mouse monoclonal antibody raised against human monocytes.

PRODUCT

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

Integrin αL (38) is available conjugated to either phycoerythrin (sc-7306 PE) or fluorescein (sc-7306 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

Integrin αL (38) is recommended for detection of Integrin αL of human 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).

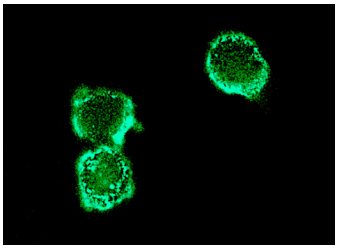
Suitable for use as control antibody for Integrin αL siRNA (h): sc-35691, Integrin αL shRNA Plasmid (h): sc-35691-SH and Integrin αL shRNA (h) Lentiviral Particles: sc-35691-V.

Molecular Weight of Integrin αL: 180 kDa.

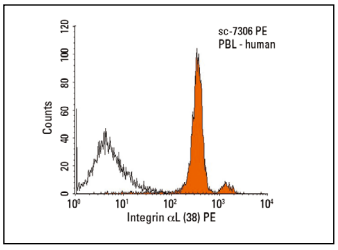
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) 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



Integrin αL (38): sc-7306. Immunofluorescence staining of methanol-fixed THP-1 cells showing membrane staining.



Integrin αL (38) PE: sc-7306 PE. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG_{2a}-PE: sc-2867.

SELECT PRODUCT CITATIONS

1. Doulet, N., et al. 2006. *Neisseria meningitidis* infection of human endothelial cells interferes with leukocyte transmigration by preventing the formation of endothelial docking structures. J. Cell Biol. 173: 627-637.
2. Rampon, C., et al. 2008. Molecular mechanism of systemic delivery of neural precursor cells to the brain: assembly of brain endothelial apical cups and control of transmigration by CD44. Stem Cells 26: 1673-1682.

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.