



Integrin β 1d (1G2): sc-59972

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

- Hynes, R.O. 1992. Integrins: versatility, modulation and signaling in cell adhesion. *Cell* 69: 11-25.
- 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.
- Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
- Sheppard, D. 1996. Epithelial integrins. *Bioessays* 18: 655-660.
- Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.
- Hantgan, R.R., Lyles, D.S., Mallett, T.C., Rocco, M., Nagaswami, C. and Weisel, J.W. 2003. Ligand binding promotes the entropy-driven oligomerization of Integrin α IIb/ β 3. *J. Biol. Chem.* 278: 3417-3426.
- Goncalves, I., Hughan, S.C., Schoenwaelder, S.M., Yap, C.L., Yuan, Y. and Jackson, S.P. 2003. Integrin α IIb/ β 3-dependent calcium signals regulate platelet-fibrinogen interactions under flow. Involvement of phospholipase C γ 2. *J. Biol. Chem.* 278: 34812-34822.
- Maxwell, M.J., Yuan, Y., Anderson, K.E., Hibbs, M.L., Salem, H.H. and Jackson, S.P. 2004. SHIP1 and Lyn kinase negatively regulate Integrin α IIb/ β 3 signaling in platelets. *J. Biol. Chem.* 279: 32196-32204.

CHROMOSOMAL LOCATION

Genetic locus: ITGB1 (human) mapping to 10p11.2; Itgb1 (mouse) mapping to 8 E2.

SOURCE

Integrin β 1d (1G2) is a mouse monoclonal antibody raised against Integrin β 1d of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Integrin β 1d (1G2) is recommended for detection of Integrin β 1d of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Integrin β 1 siRNA (h): sc-35674, Integrin β 1 siRNA (h2): sc-44310, Integrin β 1 siRNA (m): sc-35675, Integrin β 1 siRNA (m2): sc-44311 and Integrin β 1 siRNA (r): sc-72028.

Molecular Weight of Integrin β 1d: 140 kDa.

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) 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.

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 or our catalog for detailed protocols and support products.