

Integrin $\alpha 2/\beta 1$ (16B4): sc-59955

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.
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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. Hantgan, R.R., et al. 2003. Ligand binding promotes the entropy-driven oligomerization of Integrin $\alpha 11b/\beta 3$. *J. Biol. Chem.* 278: 3417-3426.
7. Goncalves, I., et al. 2003. Integrin $\alpha 11b/\beta 3$ -dependent calcium signals regulate platelet-fibrinogen interactions under flow. Involvement of phospholipase C γ 2. *J. Biol. Chem.* 278: 34812-34822.
8. Maxwell, M.J., et al. 2004. SHIP1 and Lyn kinase negatively regulate Integrin $\alpha 11b/\beta 3$ signaling in platelets. *J. Biol. Chem.* 279: 32196-32204.
9. Huang, C.L., et al. 2004. Disabled-2 is a negative regulator of Integrin $\alpha 11b/\beta 3$ -mediated fibrinogen adhesion and cell signaling. *J. Biol. Chem.* 279: 42279-42289.

CHROMOSOMAL LOCATION

Genetic locus: ITGA2 (human) mapping to 5q11.2, ITGB1 (human) mapping to 10p11.2

SOURCE

Integrin $\alpha 2/\beta 1$ (16B4) is a mouse monoclonal antibody raised against Integrin $\beta 1$ from HT1080 fibrosarcoma cell extract of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Integrin $\alpha 2/\beta 1$ (16B4) is recommended for detection of Integrin $\alpha 2$ and Integrin $\beta 1$ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1×10^6 cells).

Molecular Weight of Integrin $\alpha 2$: 150 kDa.

Molecular Weight of Integrin $\beta 1$: 130 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-N-SH cell lysate: sc-2410 or HEL 92.1.7 cell lysate: sc-2270.

SELECT PRODUCT CITATIONS

1. Decaris, M.L., et al. 2012. Transferable cell-secreted extracellular matrices enhance osteogenic differentiation. *Acta Biomater.* 8: 744-752.
2. Jose, S., et al. 2014. Enhanced trophic factor secretion by mesenchymal stem/stromal cells with Glycine-Histidine-Lysine (GHK)-modified alginate hydrogels. *Acta Biomater.* 10: 1955-1964.

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.



See **Integrin $\beta 1$ (A-4): sc-374429** for Integrin $\beta 1$ antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.