SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin αIIb/β3 (474): sc-52816

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 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. Hantgan, R.R., et al. 2003. Ligand binding promotes the entropy-driven oligomerization of Integrin αIIb/β3. J. Biol. Chem. 278: 3417-3426.
7. Goncalves, I., et al. 2003. Integrin αIIb/β3-dependent calcium signals regulate platelet-Fibrinogen interactions under flow. Involvement of phospholipase C γ2. J. Biol. Chem. 278: 34812-34822.
8. Maxwell, M.J., et al. 2004. SHIP-1 and Lyn kinase negatively regulate Integrin αIIb/β3 signaling in platelets. J. Biol. Chem. 279: 32196-32204.

CHROMOSOMAL LOCATION

Genetic locus: ITGA2B (human) mapping to 17q21.31, ITGB3 (human) mapping to 17q21.32.

SOURCE

Integrin αIIb/β3 (474) is a mouse monoclonal antibody raised against platelets of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Integrin αIIb/β3 (474) is recommended for detection of Integrin αIIb/β3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of Integrin αIIb: 136 kDa.

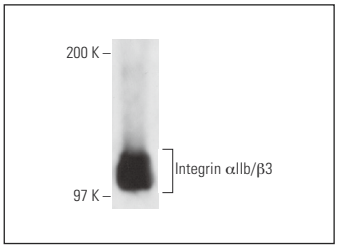
Molecular Weight of Integrin β3: 125 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, human PBL whole cell lysate or human platelet extract: sc-363773.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Integrin αIIb/β3 (474): sc-52816. Western blot analysis of Integrin αIIb/β3 expression in human PBL whole cell lysate.

STORAGE

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

PROTOCOLS

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

CONJUGATES

See **Integrin αIIb (B-9): sc-365938** for Integrin αIIb antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.