SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β3 (5K291): sc-71407

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 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. Davies, J., et al. 1989. The osteoclast functional antigen, implicated in the regulation of bone resorption, is biochemically related to the Vitronectin receptor. J. Cell Biol. 109: 1817-1826.
2. Kieffer, N., et al. 1990. Platelet membrane glycoproteins: functions in cellular interactions. Annu. Rev. Cell Biol. 6: 329-357.
3. Bray, P.F. 1994. Inherited diseases of platelet glycoproteins: considerations for rapid molecular characterization. Thromb. Haemost. 72: 492-502.
4. Schlossman, S.L., et al, eds. 1995. Leukocyte typing V: white cell differentiation antigens. Oxford: Oxford University Press.
5. Law, D.A., et al. 1996. Outside-in integrin signal transduction. αIIb/β3-(GP IIb IIIa) tyrosine phosphorylation induced by platelet aggregation. J. Biol. Chem. 271: 10811-10815.
6. Sheppard, D. 1996. Epithelial integrins. Bioessays 18: 655-660.
7. Barclay, A.N., et al. 1997. The leukocyte antigens facts book, 2nd edition, CD61 section. New York: Academic Press, 293.

CHROMOSOMAL LOCATION

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

SOURCE

Integrin β3 (5K291) is a mouse monoclonal antibody raised against Integrin β3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin β3 (5K291) is available conjugated to either phycoerythrin (sc-71407 PE) or fluorescein (sc-71407 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

Integrin β3 (5K291) is recommended for detection of Integrin β3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 β3 siRNA (h): sc-29375, Integrin β3 shRNA Plasmid (h): sc-29375-SH and Integrin β3 shRNA (h) Lentiviral Particles: sc-29375-V.

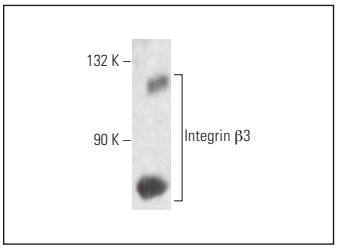
Molecular Weight of Integrin β3: 125 kDa.

Positive Controls: human platelet whole cell lysate, human platelet extract: sc-363773 or MDA-MB-231 cell lysate: sc-2232.

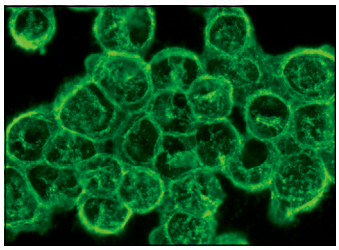
RECOMMENDED SUPPORT REAGENTS

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). 3) 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 β3 (5K291): sc-71407. Western blot analysis of Integrin β3 expression in human platelet whole cell lysate.



Integrin β3 (5K291): sc-71407. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Yang, B., et al. 2021. Enhanced mechanosensing of cells in synthetic 3D matrix with controlled biophysical dynamics. Nat. Commun. 12: 3514.

STORAGE

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

CONJUGATES

See **Integrin β3 (D-11): sc-365679** for Integrin β3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.