SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β1 (K-20): sc-18887

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Integrins are heterodimers composed of non-covalently 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.

CHROMOSOMAL LOCATION

Genetic locus: ITGB1 (human) mapping to 10p11.22.

SOURCE

Integrin β1 (K-20) is a mouse monoclonal antibody raised against human T cell lymphoma cell line.

PRODUCT

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

Integrin β1 (K-20) is available conjugated to either fluorescein (sc-18887 FITC), Alexa Fluor® 546 (sc-18887 AF546) or Alexa Fluor® 594 (sc-18887 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-18887 AF680) or Alexa Fluor® 790 (sc-18887 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Integrin β1 (K-20) is recommended for detection of Integrin β1 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 β1 siRNA (h): sc-35674, Integrin β1 shRNA Plasmid (h): sc-35674-SH and Integrin β1 shRNA (h) Lentiviral Particles: sc-35674-V.

Molecular Weight of Integrin β1: 138 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

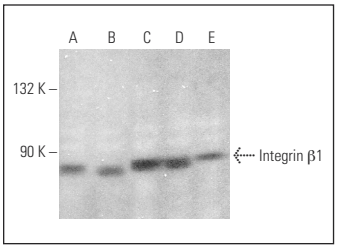
STORAGE

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

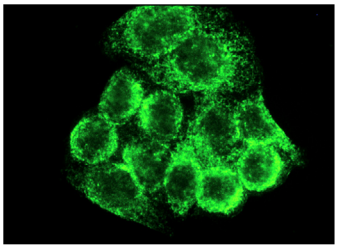
RESEARCH USE

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

DATA



Integrin β1 (K-20): sc-18887. Western blot analysis of Integrin β1 expression in A549 (**A**), Jurkat (**B**), HeLa (**C**), Raji (**D**) and Hep G2 (**E**) whole cell lysates.



Integrin β1 (K-20): sc-18887. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

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2. Zuliani, T., et al. 2013. Fetal fibroblasts and keratinocytes with immunosuppressive properties for allogeneic cell-based wound therapy. PLoS ONE. 8: e70408.
3. Ahn, E.H., et al. 2014. Spatial control of adult stem cell fate using nanotopographic cues. Biomaterials 35: 2401-2410.
4. Weber-Boyvat, M., et al. 2015. OSBP-related protein 3 (ORP3) coupling with VAMP-associated protein A regulates R-Ras activity. Exp. Cell Res. 331: 278-291.
5. Margiotta, A., et al. 2016. Rab7a regulates cell migration through Rac1 and vimentin. Biochim. Biophys. Acta 1864: 367-381.
6. Salmela, M., et al. 2017. Integrin α2β1 in nonactivated conformation can induce focal adhesion kinase signaling. Sci. Rep. 7: 3414.
7. Lugano, R., et al. 2018. CD93 promotes β1 integrin activation and fibronectin fibrillogenesis during tumor angiogenesis. J. Clin. Invest. 128: 3280-3297.
8. Rivera-Serrano, E.E., et al. 2019. Cellular entry and uncoating of naked and quasi-enveloped human hepatoviruses. Elife 8: e43983.
9. Iendaltseva, O., et al. 2020. Fibronectin patches as anchoring points for force sensing and transmission in human induced pluripotent stem cell-derived pericytes. Stem Cell Reports 14: 1107-1122.
10. Bartolomé, R.A., et al. 2021. CDH6-activated αIIbβ3 crosstalks with α2β1 to trigger cellular adhesion and invasion in metastatic ovarian and renal cancers. Mol. Oncol. 15: 1849-1865.

PROTOCOLS

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