SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β1 (JB1B): sc-59829

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

Integrin β1 (JB1B) is a mouse monoclonal antibody raised against Integrin β1 of human origin.

PRODUCT

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

Integrin β1 (JB1B) is available conjugated to agarose (sc-59829 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-59829 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59829 PE), fluorescein (sc-59829 FITC), Alexa Fluor® 488 (sc-59829 AF488), Alexa Fluor® 546 (sc-59829 AF546), Alexa Fluor® 594 (sc-59829 AF594) or Alexa Fluor® 647 (sc-59829 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-59829 AF680) or Alexa Fluor® 790 (sc-59829 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Integrin β1 (JB1B) 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.

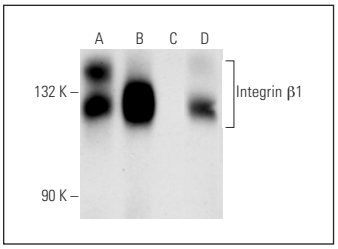
Molecular Weight of Integrin β1: 138 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, SK-N-SH cell lysate: sc-2410 or HeLa whole cell lysate: sc-2200.

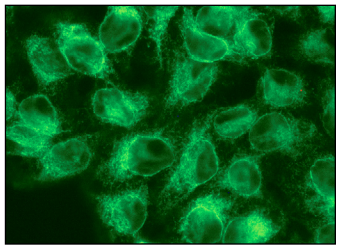
STORAGE

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

DATA



Integrin β1 (JB1B): sc-59829. Western blot analysis of Integrin β1 expression in SK-N-SH (**A**), U-87 MG (**B**), Jurkat (**C**) and HeLa (**D**) whole cell lysates.



Integrin β1 (JB1B): sc-59829. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane staining.

SELECT PRODUCT CITATIONS

1. Hu, S., et al. 2010. Prosaposin down-modulation decreases metastatic prostate cancer cell adhesion, migration, and invasion. Mol. Cancer 9: 30.
2. Hu, C.T., et al. 2011. Reactive oxygen species-mediated PKC and Integrin signaling promotes tumor progression of human hepatoma Hep G2. Clin. Exp. Metastasis 28: 851-863.
3. Mytilinaiou, M., et al. 2013. Syndecan-2 is a key regulator of transforming growth factor β2/Smad2-mediated adhesion in fibrosarcoma cells. IUBMB Life 65: 134-143.
4. Lopez-Sanchez, I., et al. 2015. Focal adhesions are foci for tyrosine-based signal transduction via GIV/girdin and G proteins. Mol. Biol. Cell 26: 4313-4324.
5. Hennigan, K., et al. 2016. Eosinophil peroxidase activates cells by HER2 receptor engagement and β1-Integrin clustering with downstream MAPK cell signaling. Clin. Immunol. 171: 1-11.
6. Xiao, W., et al. 2019. High-affinity peptide ligand LXY30 for targeting α3β1 Integrin in non-small cell lung cancer. J. Hematol. Oncol. 12: 56.
7. Leite, M., et al. 2020. *Helicobacter pylori* targets the EPHA2 receptor tyrosine kinase in gastric cells modulating key cellular functions. Cells 9: 513.
8. Mizushima, T., et al. 2020. Androgen receptor signaling reduces the efficacy of *Bacillus* Calmette-Guérin therapy for bladder cancer via modulating Rab27b-induced exocytosis. Mol. Cancer Ther. 19: 1930-1942.
9. Deschepper, F.M., et al. 2020. L1CAM as an E-Selectin ligand in colon cancer. Int. J. Mol. Sci. 21: 8286.
10. Bieri, M., et al. 2021. The RGD-binding Integrins αvβ6 and αvβ8 are receptors for mouse adenovirus-1 and -3 infection. PLoS Pathog. 17: e1010083.

RESEARCH USE

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