SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β1 (12G10): sc-59827

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 (12G10) is a mouse monoclonal antibody raised against purified Integrin β1 from HT1080 fibrosarcoma cell extract 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 β1 (12G10) is available conjugated to agarose (sc-59827 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-59827 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59827 PE), fluorescein (sc-59827 FITC), Alexa Fluor® 488 (sc-59827 AF488), Alexa Fluor® 546 (sc-59827 AF546), Alexa Fluor® 594 (sc-59827 AF594) or Alexa Fluor® 647 (sc-59827 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-59827 AF680) or Alexa Fluor® 790 (sc-59827 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Integrin β1 (12G10) is recommended for detection of Integrin β1 of human origin by Western Blotting (non-reducing) (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.

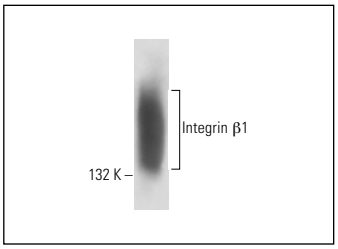
Molecular Weight of Integrin β1: 138 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, HeLa whole cell lysate: sc-2200 or U-937 cell lysate: sc-2239.

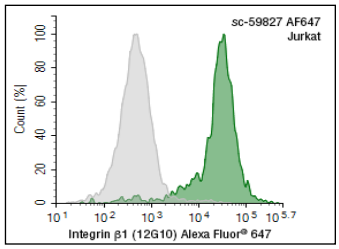
STORAGE

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

DATA



Integrin β1 (12G10): sc-59827. Western blot analysis of Integrin β1 expression in U-937 whole cell lysate under non-reducing conditions.



Integrin β1 (12G10) Alexa Fluor® 647: sc-59827 AF647. FCM analysis of Jurkat cells. Gray histogram represents the isotype control, normal mouse IgG_1: sc-24636.

SELECT PRODUCT CITATIONS

1. Sung, B.H., et al. 2011. Cortactin controls cell motility and lamellipodial dynamics by regulating ECM secretion. Curr. Biol. 21: 1460-1469.
2. Kandasamy, K., et al. 2014. Polysulfone membranes coated with polymerized 3,4-dihydroxy-l-phenylalanine are a versatile and cost-effective synthetic substrate for defined long-term cultures of human pluripotent stem cells. Biomacromolecules 15: 2067-2078.
3. Romero, A., et al. 2015. Cigarette smoke condensate inhibits collagen gel contraction and prostaglandin E2 production in human gingival fibroblasts. J. Periodontal Res. 50: 371-379.
4. Siqueira, A.S., et al. 2016. Laminin-111 peptide C16 regulates invadopodia activity of malignant cells through β1 Integrin, Src and ERK 1/2. Oncotarget 7: 47904-47917.
5. Margiotta, A., et al. 2017. Rab7a regulates cell migration through Rac1 and Vimentin. Biochim. Biophys. Acta Mol. Cell Res. 1864: 367-381.
6. Peng, C., et al. 2018. Response of hPDLSCs on 3D printed PCL/PLGA composite scaffolds *in vitro*. Mol. Med. Rep. 18: 1335-1344.
7. Miyagawa, T., et al. 2019. MT1-MMP recruits the ER-Golgi SNARE Bet1 for efficient MT1-MMP transport to the plasma membrane. J. Cell Biol. 218: 3355-3371.
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9. Chronopoulos, A., et al. 2020. Syndecan-4 tunes cell mechanics by activating the kindlin-integrin-RhoA pathway. Nat. Mater. 19: 669-678.
10. Madhusudhan, T., et al. 2020. Podocyte Integrin-β3 and activated protein C coordinately restrict RhoA signaling and ameliorate diabetic nephropathy. J. Am. Soc. Nephrol. 31: 1762-1780.

RESEARCH USE

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