SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β1 (E-11): sc-374430

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; Itgb1 (mouse) mapping to 8 E2.

SOURCE

Integrin β1 (E-11) is a mouse monoclonal antibody raised against amino acids 375-480 mapping within an extracellular domain of 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 (E-11) is available conjugated to agarose (sc-374430 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374430 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374430 PE), fluorescein (sc-374430 FITC), Alexa Fluor® 488 (sc-374430 AF488), Alexa Fluor® 546 (sc-374430 AF546), Alexa Fluor® 594 (sc-374430 AF594) or Alexa Fluor® 647 (sc-374430 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374430 AF680) or Alexa Fluor® 790 (sc-374430 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Integrin β1 (E-11) is recommended for detection of Integrin β1 of mouse, rat and human by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

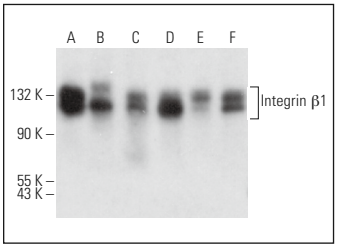
Suitable for use as control antibody for Integrin β1 siRNA (h): sc-35674, Integrin β1 siRNA (m): sc-35675, Integrin β1 siRNA (r): sc-72028, Integrin β1 shRNA Plasmid (h): sc-35674-SH, Integrin β1 shRNA Plasmid (m): sc-35675-SH, Integrin β1 shRNA Plasmid (r): sc-72028-SH, Integrin β1 shRNA (h) Lentiviral Particles: sc-35674-V, Integrin β1 shRNA (m) Lentiviral Particles: sc-35675-V and Integrin β1 shRNA (r) Lentiviral Particles: sc-72028-V.

Molecular Weight of Integrin β1: 138 kDa.

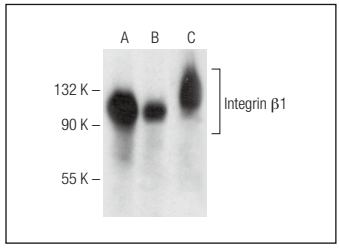
STORAGE

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

DATA



Integrin β1 (E-11): sc-374430. Western blot analysis of Integrin β1 expression in A549 (**A**), NIH/3T3 (**B**), C2C12 (**C**), C6 (**D**), A-431 (**E**) and U-2 OS (**F**) whole cell lysates.



Integrin β1 (E-11): sc-374430. Western blot analysis of Integrin β1 expression in U-87 MG (**A**), SK-N-SH (**B**) and F9 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Dzobo, K., et al. 2015. Wnt/β-catenin and MEK-ERK signaling are required for fibroblast-derived extracellular matrix-mediated endoderm differentiation of embryonic stem cells. Stem Cell Rev. Rep. 11: 761-773.
2. Yan, Y., et al. 2016. Mechanical strain promotes osteoblastic differentiation through Integrin β1-mediated β-catenin signaling. Int. J. Mol. Med. 38: 594-600.
3. Lee, H., et al. 2017. Lung epithelial cell-derived microvesicles regulate macrophage migration via microRNA-17/221-induced Integrin β1 recycling. J. Immunol. 199: 1453-1464.
4. Benjamin, D., et al. 2018. Dual inhibition of the lactate transporters MCT1 and MCT4 is synthetic lethal with metformin due to NAD^+ depletion in cancer cells. Cell Rep. 25: 3047-3058.e4.
5. Schmitt, M., et al. 2019. Quantitative proteomics links the intermediate filament nestin to resistance to targeted BRAF inhibition in melanoma cells. Mol. Cell. Proteomics 18: 1096-1109.
6. Fattet, L., et al. 2020. Matrix rigidity controls epithelial-mesenchymal plasticity and tumor metastasis via a mechanoresponsive EPHA2/LYN complex. Dev. Cell 54: 302-316.e7.
7. Fernandez, C., et al. 2021. TMPRSS11a is a novel age-altered, tissue specific regulator of migration and wound healing. FASEB J. 35: e21597.
8. Mia, M.S., et al. 2023. Integrin β1 is a key determinant of the expression of angiotensin-converting enzyme 2 (ACE2) in the kidney epithelial cells. Eur. J. Cell Biol. 102: 151316.

RESEARCH USE

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