SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β1 (HMβ1-1): sc-19656

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. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. Cell 69: 11-25.
2. Balzac, F., et al. 1993. Expression and functional analysis of a cytoplasmic domain variant of the β1 Integrin subunit. J. Cell Biol. 121: 171-178.
3. Balzac, F., et al. 1994. Expression of β1B Integrin isoform in CHO cells results in a dominant negative effect on cell adhesion and motility. J. Cell Biol. 127: 557-565.
4. Zhidkova, N.I., et al. 1995. Novel isoform of β1 Integrin expressed in skeletal and cardiac muscle. Biochem. Biophys. Res. Commun. 214: 279-285.
5. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. Science 267: 883-885.
6. Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. Science 268: 233-239.
7. Sheppard, D. 1996. Epithelial integrins. Bioessays 18: 655-660.

CHROMOSOMAL LOCATION

Genetic locus: Itgb1 (mouse) mapping to 8 E2.

SOURCE

Integrin β1 (HMβ1-1) is an Armenian hamster monoclonal antibody raised against purified mouse Integrin β1.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin β1 (HMβ1-1) is available conjugated to either phycoerythrin (sc-19656 PE) or fluorescein (sc-19656 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

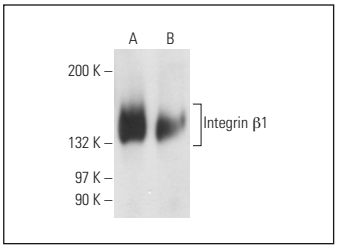
Integrin β1 (HMβ1-1) is recommended for detection of Integrin β1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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

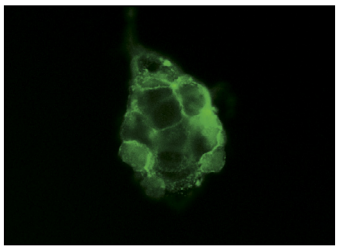
Molecular Weight of Integrin β1: 130 kDa.

Positive Controls: F9 cell lysate: sc-2245 or c4 whole cell lysate: sc-364186.

DATA



Integrin β1 (HMβ1-1): sc-19656. Western blot analysis of Integrin β1 expression in F9 (**A**) and C4 (**B**) whole cell lysates under non-reducing conditions.



Integrin β1 (HMβ1-1): sc-19656. Immunofluorescence staining of methanol-fixed F9 cells showing cytoplasmic and membrane staining.

SELECT PRODUCT CITATIONS

1. Nobumoto, A., et al. 2008. Galectin-9 suppresses tumor metastasis by blocking adhesion to endothelium and extracellular matrices. Glycobiology 18: 735-744.
2. Piechocki, M.P. 2008. A stable explant culture of HER2/neu invasive carcinoma supported by α-smooth muscle Actin expressing stromal cells to evaluate therapeutic agents. BMC Cancer 8: 119.
3. Shewchuk, L.J., et al. 2010. Integrin β3 prevents apoptosis of HL-1 cardiomyocytes under conditions of oxidative stress. Can. J. Physiol. Pharmacol. 88: 324-330.
4. Shi, F., et al. 2016. Cellular prion protein promotes neuronal differentiation of adipose-derived stem cells by upregulating miRNA-124. J. Mol. Neurosci. 59: 48-55.
5. Xia, M., et al. 2019. HAND2-mediated epithelial maintenance and integrity in cardiac outflow tract morphogenesis. Development 146: dev177477.

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 β1 (A-4): sc-374429** for Integrin β1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.