SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β1 (MEM-101A): sc-51649

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.

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.
8. Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. Bioessays 18: 911-917.

CHROMOSOMAL LOCATION

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

SOURCE

Integrin β1 (MEM-101A) is a mouse monoclonal antibody raised against Burkitt's lymphoma cell line Raji of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin β1 (MEM-101A) is available conjugated either phycoerythrin (sc-51649 PE, 100 tests in 2 ml) or fluorescein (sc-51649 FITC, 100 tests in 2 ml), for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

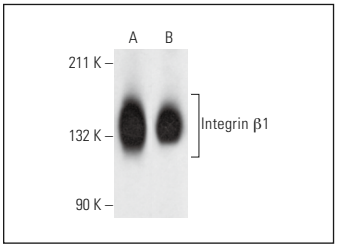
Integrin β1 (MEM-101A) is recommended for detection of Integrin β1 of human origin by Western Blotting (non-reducing) (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10^6 cells).

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.

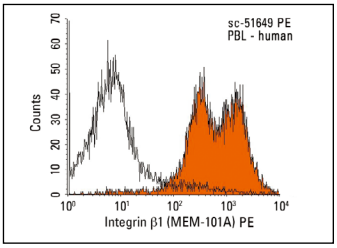
Molecular Weight of Integrin β1: 138 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, HeLa whole cell lysate: sc-2200 or Raji whole cell lysate: sc-364236.

DATA



Integrin β1 (MEM-101A): sc-51649. Western blot analysis of Integrin β1 expression in U-87 MG (**A**) and Raji (**B**) whole cell lysates under non-reducing conditions.



Integrin β1 (MEM-101A): sc-51649. Indirect FCM analysis of human peripheral blood leukocytes stained with Integrin β1 (MEM-101A), followed by PE-conjugated goat anti-mouse IgG_1: sc-3764. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.

SELECT PRODUCT CITATIONS

1. Onodera, Y., et al. 2012. Rab5c promotes AMAP1-PRKD2 complex formation to enhance β1 integrin recycling in EGF-induced cancer invasion. J. Cell Biol. 197: 983-996.
2. Hao, S., et al. 2014. JAM-C promotes lymphangiogenesis and nodal metastasis in non-small cell lung cancer. Tumour Biol. 35: 5675-5687.
3. Haas, T.L., et al. 2017. Integrin α7 is a functional marker and potential therapeutic target in glioblastoma. Cell Stem Cell 21: 35-50.

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.

PROTOCOLS

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