

# Integrin $\beta$ 1 (2Q837): sc-71385

## BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane  $\alpha$  and  $\beta$  subunits. The 16  $\alpha$  and 8  $\beta$  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

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- Balzac, F., Retta, S.F., Albini, A., Melchiorri, A., Kotliansky, V.E., Geuna, M., Silengo, L. and Tarone, G. 1994. Expression of  $\beta$  1B Integrin isoform in CHO cells results in a dominant negative effect on cell adhesion and motility. *J. Cell Biol.* 127: 557-565.
- Zhidkova, N.I., Belkin, A.M. and Mayne, R. 1995. Novel isoform of  $\beta$ 1 Integrin expressed in skeletal and cardiac muscle. *Biochem. Biophys. Res. Commun.* 214: 279-285.
- Miyamoto, S., Akiyama, S.K. and Yamada, K.M. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
- Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.

## CHROMOSOMAL LOCATION

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

## SOURCE

Integrin  $\beta$ 1 (2Q837) is a mouse monoclonal antibody raised against purified Integrin  $\beta$ 1 from HT1080 fibrosarcoma cell extract of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

Integrin  $\beta$ 1 (2Q837) is recommended for detection of Integrin  $\beta$ 1 of human origin by Western Blotting (non-reducing) (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for Integrin  $\beta$ 1 siRNA (h): sc-35674, Integrin  $\beta$ 1 shRNA Plasmid (h): sc-35674-SH and Integrin  $\beta$ 1 shRNA (h) Lentiviral Particles: sc-35674-V.

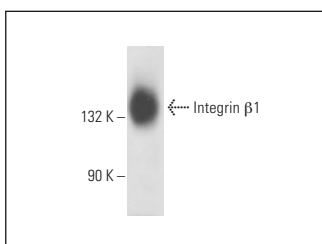
Molecular Weight of Integrin  $\beta$ 1: 138 kDa.

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

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Integrin  $\beta$ 1 (2Q837): sc-71385. Western blot analysis of Integrin  $\beta$ 1 expression in U-937 whole cell lysate under non-reducing conditions.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CONJUGATES

See **Integrin  $\beta$ 1 (A-4): sc-374429** for Integrin  $\beta$ 1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.