



# Integrin $\beta 1$ (P4G11): sc-18845

## 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

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  $\beta 1$  integrin subunit. *J. Cell Biol.* 121: 171-178.
3. Balzac, F., et al. 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.
4. Zhidkova, N.I., et al. 1995. Novel isoform of  $\beta 1$  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.
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## CHROMOSOMAL LOCATION

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

## SOURCE

Integrin  $\beta 1$  (P4G11) is a mouse monoclonal antibody raised against purified human Integrin  $\beta 1$ .

## STORAGE

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

## 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. Also available azide-free for activation of cell adhesion, sc-18845 L, 200  $\mu$ g/0.1 ml.

Integrin  $\beta 1$  (P4G11) is available conjugated to phycoerythrin (sc-18845 PE), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

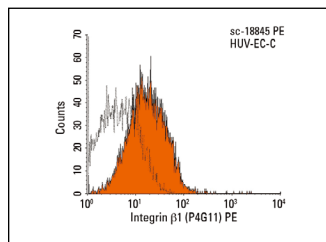
Integrin  $\beta 1$  (P4G11) is recommended for detection of Integrin  $\beta 1$  of human origin by flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Integrin  $\beta 1$  (P4G11) is also recommended for detection of Integrin  $\beta 1$  in additional species, including rabbit and monkey.

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

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

## DATA



Integrin  $\beta 1$  (P4G11) PE: sc-18845 PE. FCM analysis of HUV-EC-C cells. Black line histogram represents the isotype control, normal mouse IgG<sub>1</sub>-PE: sc-2866.

## SELECT PRODUCT CITATIONS

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3. Antelmi, E., et al. 2013.  $\beta 1$  integrin binding phosphorylates ezrin at T567 to activate a lipid raft signalsome driving invadopodia activity and invasion. *PLoS ONE* 8: e75113.
4. Li, M., et al. 2018. Genetically-modified bone mesenchymal stem cells with TGF- $\beta 3$  improve wound healing and reduce scar tissue formation in a rabbit model. *Exp. Cell Res.* 367: 24-29.
5. Greco, M.R., et al. 2018. Phosphorylation of NHERF1 S279 and S301 differentially regulates breast cancer cell phenotype and metastatic organotropism. *Biochim. Biophys. Acta Mol. Basis Dis.* 1865: 26-37.

## RESEARCH USE

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