

# Integrin $\alpha 4$ (9F10): sc-23933

## 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. Takada, Y., et al. 1989. The primary structure of the  $\alpha 4$  subunit of VLA-4: homology to other integrins and a possible cell-cell adhesion function. *EMBO J.* 8: 1361-1368.
2. Miyake, K., et al. 1991. Evidence for a role of the Integrin VLA-4 in lympho-hemopoiesis. *J. Exp. Med.* 173: 599-607.
3. Rosen, G.D., et al. 1991. Characterization of the  $\alpha 4$  Integrin gene promoter. *Proc. Natl. Acad. Sci. USA* 88: 4094-4098.
4. Teixido, J., et al. 1992. Functional and structural analysis of VLA-4 Integrin  $\alpha 4$  subunit cleavage. *J. Biol. Chem.* 267: 1786-1791.
5. Lauri, D., et al. 1993. Decreased adhesion to endothelial cells and matrix proteins of H-2 kb gene transfected tumour cells. *Br. J. Cancer* 68: 862-867.
6. Henseleit, U., et al. 1995. Expression of murine VCAM-1 *in vitro* and in different models of inflammation *in vivo*: correlation with immigration of monocytes. *Exp. Dermatol.* 4: 249-256.
7. Christensen, J.P., et al. 1995.  $\alpha 4$  Integrin directs virus-activated CD8<sup>+</sup> T cells to sites of infection. *J. Immunol.* 154: 5293-5301.
8. Juliano, R. 1997. Cooperation between soluble factors and Integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.
9. Zhang, Y., Lu, et al. Y. 2004. Functional differences between Integrin  $\alpha 4$  and Integrins  $\alpha 5/\alpha V$  in modulating the motility of human oral squamous carcinoma cells in response to the V region and heparin-binding domain of Fibronectin. *Exp. Cell Res.* 295: 48-58.

## CHROMOSOMAL LOCATION

Genetic locus: ITGA4 (human) mapping to 2q31.3.

## SOURCE

Integrin  $\alpha 4$  (9F10) is a mouse monoclonal antibody raised against immunopurified Integrin  $\alpha 4\beta$  (VLA-4) of human origin.

## PRODUCT

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

Integrin  $\alpha 4$  (9F10) is available conjugated to either phycoerythrin (sc-23933 PE) or fluorescein (sc-23933 FITC), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM.

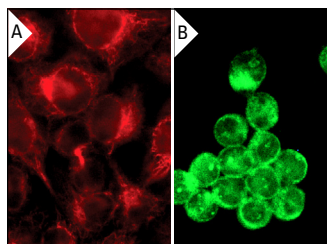
## APPLICATIONS

Integrin  $\alpha 4$  (9F10) is recommended for detection of Integrin  $\alpha 4$  of human origin by 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).

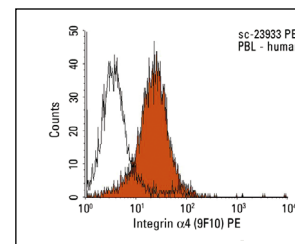
Suitable for use as control antibody for Integrin  $\alpha 4$  siRNA (h): sc-35685, Integrin  $\alpha 4$  shRNA Plasmid (h): sc-35685-SH and Integrin  $\alpha 4$  shRNA (h) Lentiviral Particles: sc-35685-V.

Molecular Weight of Integrin  $\alpha 4$ : 150 kDa.

## DATA



Integrin  $\alpha 4$  (9F10): sc-23933. Immunofluorescence staining of methanol-fixed HeLa (A) and Jurkat (B) cells showing membrane localization.



Integrin  $\alpha 4$  (9F10) PE: sc-23933 PE. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG<sub>1</sub>-PE: sc-2866.

## SELECT PRODUCT CITATIONS

1. Ueno, T., et al. 2010. Osteopontin levels are elevated in patients with eosinophilic pneumonia. *Respirology* 15: 1111-1121.
2. Micocci, K.C., et al. 2016. ADAM9 silencing inhibits breast tumor cells transmigration through blood and lymphatic endothelial cells. *Biochimie* 128-129: 174-182.

## 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](http://www.scbt.com) for detailed protocols and support products.