

# Integrin $\alpha$ 4 (PS/2): sc-52593

## 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. Rosen, G.D., et al. 1991. Characterization of the  $\alpha$ 4 Integrin gene promoter. *Proc. Natl. Acad. Sci. USA* 88: 4094-4098.
3. Miyake, K., et al. 1991. Evidence for a role of the integrin VLA-4 in lympho-hemopoiesis. *J. Exp. Med.* 173: 599-607.
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-2Kb gene transfected tumour cells. *Br. J. Cancer* 68: 862-867.
6. Christensen, J.P., et al. 1995. Integrin  $\alpha$ 4 directs virus-activated CD8<sup>+</sup> T cells to sites of infection. *J. Immunol.* 154: 5293-5301.
7. 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.

## CHROMOSOMAL LOCATION

Genetic locus: ITGA4 (human) mapping to 2q31.3; Itga4 (mouse) mapping to 2 C3.

## SOURCE

Integrin  $\alpha$ 4 (PS/2) is a rat monoclonal antibody raised against P815 mouse cell line.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin  $\alpha$ 4 (PS/2) is available conjugated to either phycoerythrin (sc-52593 PE) or fluorescein (sc-52593 FITC), 200  $\mu$ g/ml, for IF, IHC(P) and FCM.

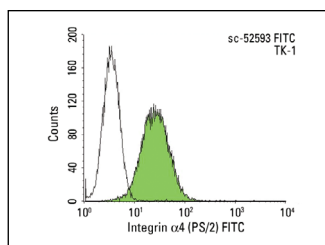
## APPLICATIONS

Integrin  $\alpha$ 4 (PS/2) is recommended for detection of Integrin  $\alpha$ 4 of mouse, rat and 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).

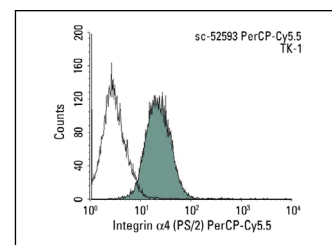
Suitable for use as control antibody for Integrin  $\alpha$ 4 siRNA (h): sc-35685, Integrin  $\alpha$ 4 siRNA (m): sc-35686, Integrin  $\alpha$ 4 shRNA Plasmid (h): sc-35685-SH, Integrin  $\alpha$ 4 shRNA Plasmid (m): sc-35686-SH, Integrin  $\alpha$ 4 shRNA (h) Lentiviral Particles: sc-35685-V and Integrin  $\alpha$ 4 shRNA (m) Lentiviral Particles: sc-35686-V.

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

## DATA



Integrin  $\alpha$ 4 (PS/2): sc-52593. Indirect FCM analysis of TK-1 cells stained with Integrin  $\alpha$ 4 (PS/2), followed by FITC-conjugated goat anti-rat IgG: sc-2011. Black line histogram represents the isotype control, normal rat IgG<sub>2b</sub>: sc-3884.



Integrin  $\alpha$ 4 (PS/2): sc-52593. Indirect FCM analysis of TK-1 cells stained with Integrin  $\alpha$ 4 (PS/2), followed by PerCP-Cy5.5-conjugated goat anti-rat IgG: sc-45100. Black line histogram represents the isotype control, normal rat IgG<sub>2b</sub>: sc-3884.

## SELECT PRODUCT CITATIONS

1. Xu, L., et al. 2016. Defocused low-energy shock wave activates adipose tissue-derived stem cells *in vitro* via multiple signaling pathways. *Cytotherapy* 18: 1503-1514.
2. Wang, D.Y., et al. 2021. Vinculin is required for neuronal mechanosensing but not for axon outgrowth. *Exp. Cell Res.* E-published.

## 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.