

# Integrin $\beta 2$ (N-19): sc-6624

## 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. Integrin  $\beta 2$  associates with either  $\alpha L$ ,  $\alpha M$ ,  $\alpha X$  or  $\alpha D$ . Defects in Integrin  $\beta 2$  are the cause of leukocyte adhesion deficiency type I (LAD1), causing bacterial infections and their leukocytes are deficient in a wide range of adhesion-dependent functions.

## REFERENCES

1. Law, S.K., et al. 1987. The primary structure of the  $\beta$ -subunit of the cell surface adhesion glycoproteins LFA-1, CR3 and p150,95 and its relationship to the Fibronectin receptor. *EMBO J.* 6: 915-919.
2. Arnaout, M.A., et al. 1990. Point mutations impairing cell surface expression of the common  $\beta$ -subunit (CD18) in a patient with leukocyte adhesion molecule (Leu-CAM) deficiency. *J. Clin. Invest.* 85: 977-981.
3. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in Integrin transmembrane function. *Science* 267: 883-885.
4. 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: ITGB2 (human) mapping to 21q22.3; Itgb2 (mouse) mapping to 10 C1.

## SOURCE

Integrin  $\beta 2$  (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Integrin  $\beta 2$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-6624 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

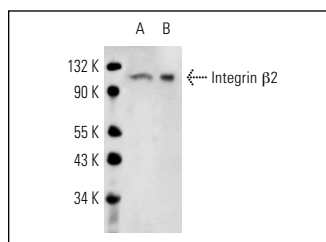
Integrin  $\beta 2$  (N-19) is recommended for detection of Integrin  $\beta 2$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Integrin  $\beta 2$  siRNA (h): sc-29374, Integrin  $\beta 2$  siRNA (m): sc-35676, Integrin  $\beta 2$  shRNA Plasmid (h): sc-29374-SH, Integrin  $\beta 2$  shRNA Plasmid (m): sc-35676-SH, Integrin  $\beta 2$  shRNA (h) Lentiviral Particles: sc-29374-V and Integrin  $\beta 2$  shRNA (m) Lentiviral Particles: sc-35676-V.

Molecular Weight of Integrin  $\beta 2$ : 95 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, mouse PBL whole cell lysate or human PBL whole cell lysate.

## DATA



Integrin  $\beta 2$  (N-19): sc-6624. Western blot analysis of Integrin  $\beta 2$  expression in HL-60 (A) and mouse PBL (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Saintier, D., et al. 2004. 17 $\beta$ -Estradiol downregulates  $\beta 3$ -Integrin expression in differentiating and mature human osteoclasts. *J. Cell Physiol.* 198: 269-276.
2. Ostapowicz, A., et al. 2006. Lipid rafts remodeling in estrogen receptor-negative breast cancer is reversed by Histone deacetylase inhibitor. *Mol. Cancer Ther.* 5: 238-245.
3. Obermajer, N., et al. 2006. Carboxypeptidase cathepsin X mediates  $\beta 2$ -Integrin-dependent adhesion of differentiated U-937 cells. *Exp. Cell Res.* 312: 2515-2527.

## RESEARCH USE

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



Try **Integrin  $\beta 2$  (CTB104): sc-8420** or **Integrin  $\beta 2$  (C-4): sc-393790**, our highly recommended monoclonal alternatives to Integrin  $\beta 2$  (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Integrin  $\beta 2$  (CTB104): sc-8420**.