

Integrin β 2 (K-19): sc-6625

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. The 16α and 8β 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 β 2 associates with either α L, α M, α X or α D. Defects in Integrin β 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 β -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 β -subunit (CD18) in a patient with leukocyte adhesion molecule (Leu-CAM) deficiency. *J. Clin. Invest.* 85: 977-981.
3. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. *Cell* 69: 11-25.
4. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in Integrin transmembrane function. *Science* 267: 883-885.
5. Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
6. Sheppard, D. 1996. Epithelial Integrins. *BioEssays* 18: 655-660.

CHROMOSOMAL LOCATION

Genetic locus: ITGB2 (human) mapping to 21q22.3; Itgb2 (mouse) mapping to 10 C1.

SOURCE

Integrin β 2 (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Integrin β 2 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6625 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Integrin β 2 (K-19) is recommended for detection of Integrin β 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 β 2 siRNA (h): sc-29374, Integrin β 2 siRNA (m): sc-35676, Integrin β 2 shRNA Plasmid (h): sc-29374-SH, Integrin β 2 shRNA Plasmid (m): sc-35676-SH, Integrin β 2 shRNA (h) Lentiviral Particles: sc-29374-V and Integrin β 2 shRNA (m) Lentiviral Particles: sc-35676-V.

Molecular Weight of Integrin β 2: 95 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Piguet, P.F., et al. 2001. β 2 Integrin modulates platelet caspase activation and life span in mice. *Eur. J. Cell. Biol.* 80: 171-177.
2. Severson, B., et al. 2004. Cbfa1/RUNX2 directs specific expression of the sclerostosis gene (SOST). *J. Biol. Chem.* 279: 13849-13858.
3. Oliveira, L.A., et al. 2010. Expression of β 2 integrin (CD18) in embryonic mouse and chicken heart. *Braz. J. Med. Biol. Res.* 43: 25-35.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Integrin β 2 (CTB104): sc-8420** or **Integrin β 2 (C-4): sc-393790**, our highly recommended monoclonal alternatives to Integrin β 2 (K-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Integrin β 2 (CTB104): sc-8420**.