SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin α4 (Y-18): sc-6591

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.

REFERENCES

1. Takada, Y., et al. 1989. The primary structure of the α4 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 α4 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 α4 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 α4 directs virus-activated $CD8^+$ T cells to sites of infection. J. Immunol. 154: 5293-5301.

CHROMOSOMAL LOCATION

Genetic locus: Itga4 (mouse) mapping to 2 C3.

SOURCE

Integrin α4 (Y-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Integrin α4 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6591 P, (100 µg 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 α4 (Y-18) is recommended for detection of Integrin α4 of mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (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 α4 siRNA (m): sc-35686, Integrin α4 shRNA Plasmid (m): sc-35686-SH and Integrin α4 shRNA (m) Lentiviral Particles: sc-35686-V.

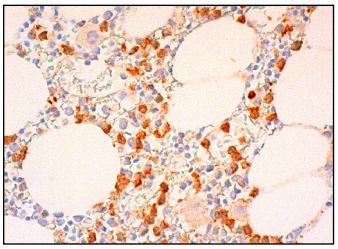
Molecular Weight of Integrin α4: 150 kDa.

Positive Controls: mouse liver extract: sc-2256.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Integrin α4 (Y-18): sc-6591. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic and membrane staining of subset of hematopoietic cells.

SELECT PRODUCT CITATIONS

1. Garmy-Susini, B., et al. 2005. Integrin α4β1-VCAM-1-mediated adhesion between endothelial and mural cells is required for blood vessel maturation. J. Clin. Invest. 115: 1542-1551.
2. Kang, B.N., et al. 2012. The p110δ subunit of PI3K regulates bone marrow-derived eosinophil trafficking and airway eosinophilia in allergen-challenged mice. Am. J. Physiol. Lung Cell. Mol. Physiol. 302: L1179-L1191.

RESEARCH USE

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