

Integrin α 1 (F-19): sc-6584

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. The 16 α and 8 β 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

- Hynes, R.O. 1992. Integrins: versatility, modulation and signaling in cell adhesion. *Cell* 69: 11-25.
- Miyamoto, S., Akiyama, S.K. and Yamada, K.M. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
- Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
- Sheppard, D. 1996. Epithelial integrins. *Bioessays* 18: 655-660.
- 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: ITGA1 (human) mapping to 5q11.2; Itga1 (mouse) mapping to 13 D2.2.

SOURCE

Integrin α 1 (F-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Integrin α 1 of rat 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-6584 P, (100 μ 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.

PROTOCOLS

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

APPLICATIONS

Integrin α 1 (F-19) is recommended for detection of Integrin α 1 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).

Integrin α 1 (F-19) is also recommended for detection of Integrin α 1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Integrin α 1 siRNA (h): sc-43125, Integrin α 1 siRNA (m): sc-43126, Integrin α 1 shRNA Plasmid (h): sc-43125-SH, Integrin α 1 shRNA Plasmid (m): sc-43126-SH, Integrin α 1 shRNA (h) Lentiviral Particles: sc-43125-V and Integrin α 1 shRNA (m) Lentiviral Particles: sc-43126-V.

Molecular Weight of Integrin α 1: 200 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or SK-N-SH cell lysate: sc-2410.

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

- Blaschke, F., Stawowy, P., Goetze, S., Hintz, O., Gräfe, M., Kintscher, U., Fleck, E. and Graf, K. 2002. Hypoxia activates β 1-integrin via ERK 1/2 and p38 MAP kinase in human vascular smooth muscle cells. *Biochem. Biophys. Res. Commun.* 296: 890-896.
- Blaschke, F., Stawowy, P., Kappert, K., Goetze, S., Kintscher, U., Wollert-Wulf, B., Fleck, E. and Graf, K. 2002. Angiotensin II-augmented migration of VSMCs towards PDGF-BB involves Pyk2 and ERK 1/2 activation. *Basic Res. Cardiol.* 97: 334-342.
- Anderson, K. and Ferreira, A. 2004. α 1 Integrin activation: a link between β -amyloid deposition and neuronal death in aging hippocampal neurons. *J. Neurosci. Res.* 75: 688-697.

RESEARCH USE

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