SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin α3 (H-43): sc-28665

BACKGROUND

Integrins are heterodimers composed of non-covalently 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. The Integrin α3 chain, also known as very late (activation) antigen 3 (VLA-3), very common antigen 2 (VCA-2), extracellular matrix receptor 1 (ECMR1), and galactoprotein β3 (GAPB3), undergoes post-translational cleavage in the extracellular domain to yield disulfide-linked light and heavy chains that join with β1 to form an integrin that interacts with many extracellular-matrix proteins.

REFERENCES

1. Tsuji, T., et al. 1991. Identification of human galactoprotein β3, an oncogenic transformation-induced membrane glycoprotein, as VLA-3 α subunit: the primary structure of human Integrin α3. J. Biochem. 109: 659-665.
2. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. Cell 69: 11-25.
3. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. Science 267: 883-885.
4. Clark, E.A., et al. 1995. Integrins and signal transduction pathways: the road taken. Science 268: 233-239.

CHROMOSOMAL LOCATION

Genetic locus: ITGA3 (human) mapping to 17q21.33; Itga3 (mouse) mapping to 11 D.

SOURCE

Integrin α3 (H-43) is a rabbit polyclonal antibody raised against amino acids 831-873 mapping within an extracellular domain of Integrin α3 of human origin.

PRODUCT

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

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.

APPLICATIONS

Integrin α3 (H-43) is recommended for detection of Integrin α3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Integrin α3 (H-43) is also recommended for detection of Integrin α3 in additional species, including bovine.

Suitable for use as control antibody for Integrin α3 siRNA (h): sc-35684, Integrin α3 siRNA (m): sc-37120, Integrin α3 shRNA Plasmid (h): sc-35684-SH, Integrin α3 shRNA Plasmid (m): sc-37120-SH, Integrin α3 shRNA (h) Lentiviral Particles: sc-35684-V and Integrin α3 shRNA (m) Lentiviral Particles: sc-37120-V.

Molecular Weight of Integrin α3: 150 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208 or Caki-1 cell lysate: sc-2224.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Yamamoto, H., et al. 2008. Induction of cell adhesion by galectin-8 and its target molecules in Jurkat T-cells. J. Biochem. 143: 311-324.
2. Kopecki, Z., et al. 2009. Flightless I regulates hemidesmosome formation and integrin-mediated cellular adhesion and migration during wound repair. J. Invest. Dermatol. 129: 2031-2045.

PROTOCOLS

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