

Integrin α 1 (A-9): sc-271034

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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: ITGA1 (human) mapping to 5q11.2; Itga1 (mouse) mapping to 13 D2.2.

SOURCE

Integrin α 1 (A-9) is a mouse monoclonal antibody raised against amino acids 980-1143 mapping at the C-terminus of Integrin α 1 (also designated CD49 α) of rat origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin α 1 (A-9) is available conjugated to agarose (sc-271034 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271034 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271034 PE), fluorescein (sc-271034 FITC), Alexa Fluor[®] 488 (sc-271034 AF488), Alexa Fluor[®] 546 (sc-271034 AF546), Alexa Fluor[®] 594 (sc-271034 AF594) or Alexa Fluor[®] 647 (sc-271034 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271034 AF680) or Alexa Fluor[®] 790 (sc-271034 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

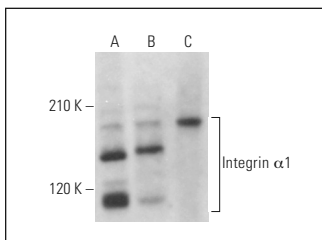
Integrin α 1 (A-9) is recommended for detection of Integrin α 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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 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.

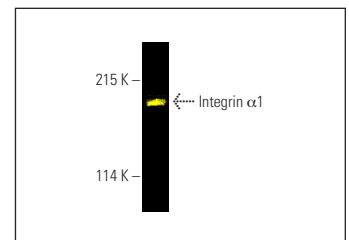
Molecular Weight of Integrin α 1: 200 kDa.

Positive Controls: A-10 cell lysate: sc-3806, human umbilical cord extract: sc-363783 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Integrin α 1 (A-9): sc-271034. Western blot analysis of Integrin α 1 expression in NIH/3T3 (A) and A-10 (B) whole cell lysates and human umbilical tissue extract (C).



Integrin α 1 (A-9) Alexa Fluor[®] 488: sc-271034 AF488. Direct fluorescent western blot analysis of Integrin α 1 expression in A-10 whole cell lysate. Blocked with UltraCruz[®] Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

- Fan, C.D., et al. 2013. Ubiquitin-dependent regulation of phospho-Akt dynamics by the ubiquitin E3 ligase, NEDD4-1, in the Insulin-like growth factor-1 response. *J. Biol. Chem.* 288: 1674-1684.
- Xu, C., et al. 2015. Regulation of MDM2 protein stability and the p53 response by NEDD4-1 E3 ligase. *Oncogene* 34: 281-289.
- Wang, Z., et al. 2016. Del1 knockout mice developed more severe osteoarthritis associated with increased susceptibility of chondrocytes to apoptosis. *PLoS ONE* 11: e0160684.
- Ni, N., et al. 2018. Glandular defects in the mouse uterus with sustained activation of TGF- β signaling is associated with altered differentiation of endometrial stromal cells and formation of stromal compartment. *PLoS ONE* 13: e0209417.
- Ahat, E., et al. 2019. GRASP depletion-mediated Golgi destruction decreases cell adhesion and migration via the reduction of α 5 β 1 integrin. *Mol. Biol. Cell* 30: 766-777.

RESEARCH USE

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