

Integrin $\alpha 5$ (B-4): sc-166681

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.

CHROMOSOMAL LOCATION

Genetic locus: ITGA5 (human) mapping to 12q13.13; Itga5 (mouse) mapping to 15 F3.

SOURCE

Integrin $\alpha 5$ (B-4) is a mouse monoclonal antibody raised against amino acids 840-943 of Integrin $\alpha 5$ of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain 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 $\alpha 5$ (B-4) is recommended for detection of Integrin $\alpha 5$ 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), 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 $\alpha 5$ siRNA (h): sc-29372, Integrin $\alpha 5$ siRNA (m): sc-35687, Integrin $\alpha 5$ shRNA Plasmid (h): sc-29372-SH, Integrin $\alpha 5$ shRNA Plasmid (m): sc-35687-SH, Integrin $\alpha 5$ shRNA (h) Lentiviral Particles: sc-29372-V and Integrin $\alpha 5$ shRNA (m) Lentiviral Particles: sc-35687-V.

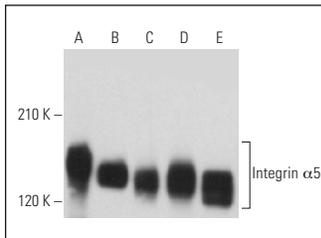
Molecular Weight of Integrin $\alpha 5$: 150 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, U-937 cell lysate: sc-2239 or A-10 cell lysate: sc-3806.

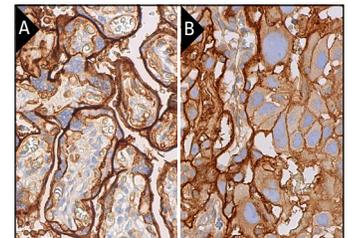
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Integrin $\alpha 5$ (B-4): sc-166681. Western blot analysis of Integrin $\alpha 5$ expression in U-937 (A), HUV-EC-C (B), 3T3-L1 (C), RAW 264.7 (D) and A-10 (E) whole cell lysates.



Integrin $\alpha 5$ (B-4): sc-166681. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells and decidual cells (B).

SELECT PRODUCT CITATIONS

- Gupton, S.L., et al. 2012. Mena binds $\alpha 5$ Integrin directly and modulates $\alpha 5\beta 1$ function. *J. Cell Biol.* 198: 657-676.
- Song, Y., et al. 2016. Effects of Integrin $\alpha 5\beta 1$ on the proliferation and migration of human aortic vascular smooth muscle cells. *Mol. Med. Rep.* 13: 1147-1155.
- Oudin, M.J., et al. 2016. Tumor cell-driven extracellular matrix remodeling enables haptotaxis during metastatic progression. *Cancer Discov.* 6: 516-531.
- Li, X., et al. 2023. Actomyosin-mediated cellular tension promotes Yap nuclear translocation and myocardial proliferation through $\alpha 5$ integrin signaling. *Development* 150: dev201013.

PROTOCOLS

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



See **Integrin $\alpha 5$ (C-9): sc-376199** for Integrin $\alpha 5$ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.