

Integrin $\alpha 3$ (A-3): sc-374242

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 $\alpha 3$ chain, also known as very late (activation) antigen 3 (VLA-3), very common antigen 2 (VCA-2), extracellular matrix receptor 1 (ECMR1) and galactoprotein b3 (GAPB3), undergoes posttranslational cleavage in the extracellular domain to yield disulfide-linked light and heavy chains that join with $\beta 1$ to form an integrin that interacts with many extracellular-matrix proteins.

CHROMOSOMAL LOCATION

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

SOURCE

Integrin $\alpha 3$ (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1029-1051 at the C-terminus of Integrin $\alpha 3$ of human origin.

PRODUCT

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

Integrin $\alpha 3$ (A-3) is available conjugated to agarose (sc-374242 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-374242 HRP), 200 $\mu\text{g}/\text{ml}$, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374242 PE), fluorescein (sc-374242 FITC), Alexa Fluor[®] 488 (sc-374242 AF488), Alexa Fluor[®] 546 (sc-374242 AF546), Alexa Fluor[®] 594 (sc-374242 AF594) or Alexa Fluor[®] 647 (sc-374242 AF647), 200 $\mu\text{g}/\text{ml}$, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374242 AF680) or Alexa Fluor[®] 790 (sc-374242 AF790), 200 $\mu\text{g}/\text{ml}$, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374242 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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

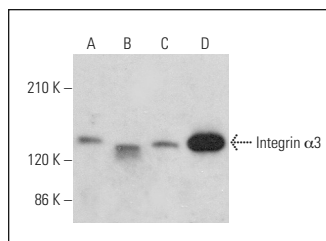
Integrin $\alpha 3$ (A-3) is recommended for detection of Integrin $\alpha 3$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 $\alpha 3$ siRNA (h): sc-35684, Integrin $\alpha 3$ siRNA (m): sc-37120, Integrin $\alpha 3$ shRNA Plasmid (h): sc-35684-SH, Integrin $\alpha 3$ shRNA Plasmid (m): sc-37120-SH, Integrin $\alpha 3$ shRNA (h) Lentiviral Particles: sc-35684-V and Integrin $\alpha 3$ shRNA (m) Lentiviral Particles: sc-37120-V.

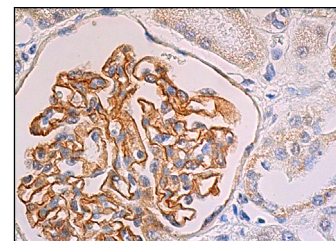
Molecular Weight of Integrin $\alpha 3$: 150 kDa.

Positive Controls: A549 cell lysate: sc-2413, A-431 whole cell lysate: sc-2201 or U-87 MG cell lysate: sc-2411.

DATA



Integrin $\alpha 3$ (A-3): sc-374242. Western blot analysis of Integrin $\alpha 3$ expression in A549 (A), U-251-MG (B), A-431 (C) and U-87 MG (D) whole cell lysates.



Integrin $\alpha 3$ (A-3): sc-374242. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli.

SELECT PRODUCT CITATIONS

- Ranyuk, E., et al. 2013. Phthalocyanine-peptide conjugates: receptor-targeting bifunctional agents for imaging and photodynamic therapy. *J. Med. Chem.* 56: 1520-1534.
- Arias-Pinilla, G.A., et al. 2020. Development and application of two novel monoclonal antibodies against overexpressed CD26 and Integrin $\alpha 3$ in human pancreatic cancer. *Sci. Rep.* 10: 537.
- Ramovs, V., et al. 2021. Integrin $\alpha 3\beta 1$ is a key regulator of several pro-tumorigenic pathways during skin carcinogenesis. *J. Invest. Dermatol.* 141: 732-741.e6.
- Huang, A., et al. 2022. Golgi phosphoprotein 3 promotes colon cancer cell metastasis through STAT3 and Integrin $\alpha 3$ pathways. *Front. Mol. Biosci.* 9: 808152.
- Militaru, I.V., et al. 2023. New panel of biomarkers to discriminate between amelanotic and melanotic metastatic melanoma. *Front. Oncol.* 12: 1061832.

RESEARCH USE

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