

Integrin $\alpha 3$ (E-8): sc-393298

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. 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.

REFERENCES

1. Tsuji, T., et al. 1991. Identification of human galactoprotein b3, an oncogenic transformation-induced membrane glycoprotein, as VLA-3 α subunit: the primary structure of human Integrin $\alpha 3$. *J. Biochem.* 109: 659-665.
2. Hynes, R.O. 1992. Integrins: versatility, modulation and signaling in cell adhesion. *Cell* 69: 11-25.
3. Berdichevsky, F., et al. 1994. Branching morphogenesis of human mammary epithelial cells in collagen gels. *J. Cell Sci.* 107: 3557-3568.
4. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.

CHROMOSOMAL LOCATION

Genetic locus: ITGA3 (human) mapping to 17q21.33.

SOURCE

Integrin $\alpha 3$ (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 833-872 at the C-terminus of Integrin $\alpha 3$ of human 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.

Blocking peptide available for competition studies, sc-393298 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Integrin $\alpha 3$ (E-8) is recommended for detection of Integrin $\alpha 3$ heavy chain of 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 $\alpha 3$ siRNA (h): sc-35684, Integrin $\alpha 3$ shRNA Plasmid (h): sc-35684-SH and Integrin $\alpha 3$ shRNA (h) Lentiviral Particles: sc-35684-V.

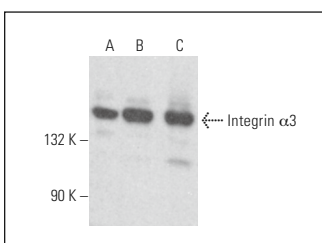
Molecular Weight of Integrin $\alpha 3$: 150 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, RT-4 whole cell lysate: sc-364257 or Caki-1 cell lysate: sc-2224.

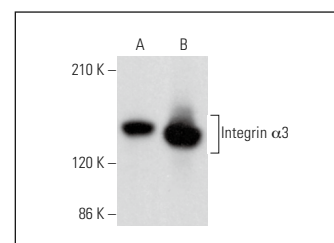
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Integrin $\alpha 3$ (E-8): sc-393298. Western blot analysis of Integrin $\alpha 3$ expression in A549 (A), Caki-1 (B) and A-431 (C) whole cell lysates.



Integrin $\alpha 3$ (E-8): sc-393298. Western blot analysis of Integrin $\alpha 3$ expression in Caki-1 (A) and RT-4 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, H., et al. 2023. Panthenol citrate biomaterials accelerate wound healing and restore tissue integrity. *Adv. Healthc. Mater.* 12: e2301683.

RESEARCH USE

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



See **Integrin $\alpha 3$ (A-3): sc-374242** for Integrin $\alpha 3$ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.