

Integrin β 4 (B-4): sc-377523

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. Integrin β 4 (ITGB4), also known as CD104, is a 1,822 amino acid single-pass type I membrane protein belonging to the Integrin β chain family. Known to associate with Integrin α 6, Integrin β 4 functions as a receptor for Laminin and is predominantly expressed by epithelia. Integrin β 4 exists as five alternatively spliced isoforms that are encoded by a gene located on human chromosome 17q25.1.

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.
- Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.
- Naessens, J., et al. 1997. Nomenclature and characterization of leukocyte differentiation antigens in ruminants. *Immunol. Today* 18: 365-368.

CHROMOSOMAL LOCATION

Genetic locus: ITGB4 (human) mapping to 17q25.1.

SOURCE

Integrin β 4 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 46-75 at the N-terminus of Integrin β 4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} 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-377523 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.

RESEARCH USE

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

APPLICATIONS

Integrin β 4 (B-4) is recommended for detection of Integrin β 4 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 β 4 siRNA (h): sc-35678, Integrin β 4 shRNA Plasmid (h): sc-35678-SH and Integrin β 4 shRNA (h) Lentiviral Particles: sc-35678-V.

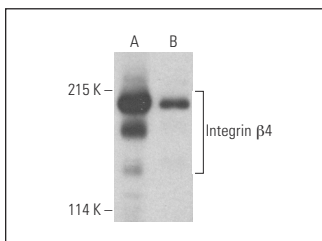
Molecular Weight of Integrin β 4: 205 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, MDA-MB-231 cell lysate: sc-2232 or A-431 + pervanadate cell lysate: sc-24654.

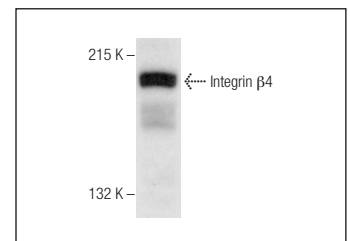
RECOMMENDED SUPPORT REAGENTS

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 β 4 (B-4): sc-377523. Western blot analysis of Integrin β 4 expression in PC-3 (A) and MDA-MB-231 (B) whole cell lysates.



Integrin β 4 (B-4): sc-377523. Western blot analysis of Integrin β 4 expression in pervanadate treated A-431 whole cell lysates.

SELECT PRODUCT CITATIONS

- Schmitt, M., et al. 2019. Quantitative proteomics links the intermediate filament nestin to resistance to targeted BRAF inhibition in melanoma cells. *Mol. Cell. Proteomics* 18: 1096-1109.
- Gupta, N., et al. 2021. Atovaquone suppresses the growth of metastatic triple-negative breast tumors in lungs and brain by inhibiting integrin/FAK signaling axis. *Pharmaceuticals* 14: 521.



See **Integrin β 4 (F-7): sc-514252** for Integrin β 4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.