

# Integrin $\beta$ 4 (B-7): sc-514426

## BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane  $\alpha$  and  $\beta$  subunits. The 16  $\alpha$  and 8  $\beta$  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  $\beta$ 4 (ITGB4), also known as CD104, is a 1,822 amino acid single-pass type I membrane protein belonging to the Integrin  $\beta$  chain family. Known to associate with Integrin  $\alpha$ 6, Integrin  $\beta$ 4 functions as a receptor for laminin and is predominantly expressed by epithelia. Integrin  $\beta$ 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.

## CHROMOSOMAL LOCATION

Genetic locus: ITGB4 (human) mapping to 17q25.1; Itgb4 (mouse) mapping to 11 E2.

## SOURCE

Integrin  $\beta$ 4 (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1797-1822 at the C-terminus of Integrin  $\beta$ 4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin  $\beta$ 4 (B-7) is available conjugated to agarose (sc-514426 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514426 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514426 PE), fluorescein (sc-514426 FITC), Alexa Fluor® 488 (sc-514426 AF488), Alexa Fluor® 546 (sc-514426 AF546), Alexa Fluor® 594 (sc-514426 AF594) or Alexa Fluor® 647 (sc-514426 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514426 AF680) or Alexa Fluor® 790 (sc-514426 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514426 P, (100  $\mu$ g 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

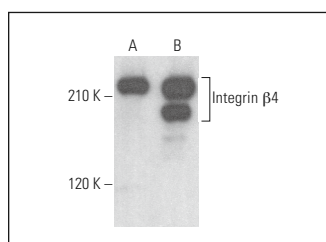
Integrin  $\beta$ 4 (B-7) is recommended for detection of Integrin  $\beta$ 4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting 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  $\beta$ 4 siRNA (h): sc-35678, Integrin  $\beta$ 4 siRNA (m): sc-35679, Integrin  $\beta$ 4 shRNA Plasmid (h): sc-35678-SH, Integrin  $\beta$ 4 shRNA Plasmid (m): sc-35679-SH, Integrin  $\beta$ 4 shRNA (h) Lentiviral Particles: sc-35678-V and Integrin  $\beta$ 4 shRNA (m) Lentiviral Particles: sc-35679-V.

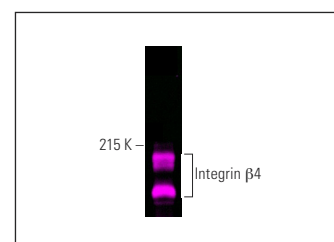
Molecular Weight of Integrin  $\beta$ 4: 205 kDa.

Positive Controls: mouse small intestine extract: sc-364252, HT-29 whole cell lysate: sc-364232 or rat colon tissue extract.

## DATA



Integrin  $\beta$ 4 (B-7): sc-514426. Western blot analysis of Integrin  $\beta$ 4 expression in rat colon (A) and mouse small intestine (B) tissue extracts.



Integrin  $\beta$ 4 (B-7) Alexa Fluor® 546: sc-514426 AF546. Direct fluorescent western blot analysis of Integrin  $\beta$ 4 expression in HT-29 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.

## SELECT PRODUCT CITATIONS

- Park, H. and Helfman, D.M. 2019. Up-regulated fibronectin in 3D culture facilitates spreading of triple negative breast cancer cells on 2D through Integrin  $\beta$ 5 and Src. *Sci. Rep.* 9: 19950.
- Figueira, I., et al. 2021. Picturing breast cancer brain metastasis development to unravel molecular players and cellular crosstalk. *Cancers* 13: 910.
- Kong, X., et al. 2022. Shear-induced ITGB4 promotes endothelial cell inflammation and atherosclerosis. *Oxid. Med. Cell. Longev.* 2022: 5842677.
- Mai, S., et al. 2023. Native autoantigen complex detects pemphigoid autoantibodies. *JID Innov.* 3: 100193.
- Maglie, R., et al. 2023. Anti- $\beta$ 4 integrin autoantibodies in patients with mucous membrane pemphigoid: a retrospective analysis from a tertiary centre in Italy. *J. Eur. Acad. Dermatol. Venerol.* 37: e249-e251.
- Luoto, J.C., et al. 2023. Cancer cell invasion alters the protein profile of extracellular vesicles. *J. Extracell. Biol.* 2: e124.

## RESEARCH USE

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