

Integrin $\beta 5$ (F-5): sc-398214

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.

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: ITGB5 (human) mapping to 3q21.2; Itgb5 (mouse) mapping to 16 B3.

SOURCE

Integrin $\beta 5$ (F-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 72-99 within an internal region of Integrin $\beta 5$ 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.

Integrin $\beta 5$ (F-5) is available conjugated to agarose (sc-398214 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398214 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398214 PE), fluorescein (sc-398214 FITC), Alexa Fluor[®] 488 (sc-398214 AF488), Alexa Fluor[®] 546 (sc-398214 AF546), Alexa Fluor[®] 594 (sc-398214 AF594) or Alexa Fluor[®] 647 (sc-398214 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398214 AF680) or Alexa Fluor[®] 790 (sc-398214 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398214 P, (100 μ 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

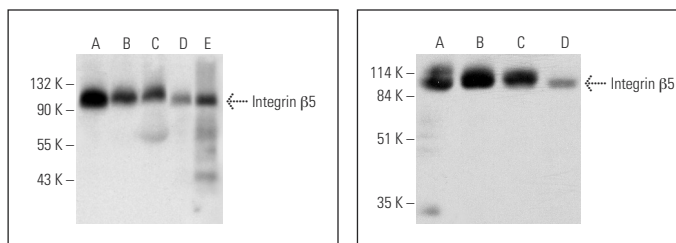
Integrin $\beta 5$ (F-5) is recommended for detection of Integrin $\beta 5$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Integrin $\beta 5$ siRNA (h): sc-35680, Integrin $\beta 5$ siRNA (m): sc-35681, Integrin $\beta 5$ siRNA (r): sc-270465, Integrin $\beta 5$ shRNA Plasmid (h): sc-35680-SH, Integrin $\beta 5$ shRNA Plasmid (m): sc-35681-SH, Integrin $\beta 5$ shRNA Plasmid (r): sc-270465-SH, Integrin $\beta 5$ shRNA (h) Lentiviral Particles: sc-35680-V, Integrin $\beta 5$ shRNA (m) Lentiviral Particles: sc-35681-V and Integrin $\beta 5$ shRNA (r) Lentiviral Particles: sc-270465-V.

Molecular Weight of Integrin $\beta 5$: 100 kDa.

Positive Controls: human ovary extract: sc-363769, HeLa whole cell lysate: sc-2200 or COLO 320DM cell lysate: sc-2226.

DATA



Integrin $\beta 5$ (F-5): sc-398214. Western blot analysis of Integrin $\beta 5$ expression in HeLa (A) and COLO 320DM (B) whole cell lysates and human ovary (C), human colon (D) and human lung (E) tissue extracts.

Integrin $\beta 5$ (F-5): sc-398214. Western blot analysis of Integrin $\beta 5$ expression in SW480 (A), A549 (B), Caco-2 (C) and COLO 205 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Abe, A., et al. 2018. $\alpha_v\beta_5$ Integrin mediates the effect of vitronectin on the initial stage of differentiation in mouse cerebellar granule cell precursors. *Brain Res.* 1691: 94-104.
- Ahat, E., et al. 2019. GRASP depletion-mediated Golgi destruction decreases cell adhesion and migration via the reduction of $\alpha 5\beta 1$ Integrin. *Mol. Biol. Cell* 30: 766-777.
- Pearson, J.D., et al. 2021. Binary pan-cancer classes with distinct vulnerabilities defined by pro- or anti-cancer YAP/TEAD activity. *Cancer Cell* 39: 1115-1134.e12.
- Phan, Q.T., et al. 2022. Serum bridging molecules drive candidal invasion of human but not mouse endothelial cells. *PLoS Pathog.* 18: e1010681.
- Kerhervé, M., et al. 2022. Neuropilin-1 modulates the 3D invasive properties of glioblastoma stem-like cells. *Front. Cell Dev. Biol.* 10: 981583.

RESEARCH USE

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