SANTA CRUZ BIOTECHNOLOGY, INC.

Integrin β5 (F-5): sc-398214

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. Hynes, R.O. 1992. Integrins: versatility, modulation and signaling in cell adhesion. Cell 69: 11-25.
2. 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 β5 (F-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 72-99 within an internal region of Integrin β5 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 β5 (F-5) is available conjugated to agarose (sc-398214 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398214 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

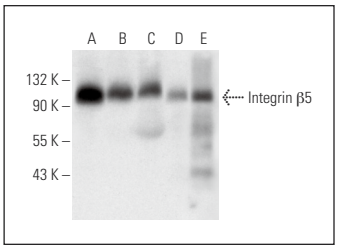
Integrin β5 (F-5) is recommended for detection of Integrin β5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Integrin β5 siRNA (h): sc-35680, Integrin β5 siRNA (m): sc-35681, Integrin β5 siRNA (r): sc-270465, Integrin β5 shRNA Plasmid (h): sc-35680-SH, Integrin β5 shRNA Plasmid (m): sc-35681-SH, Integrin β5 shRNA Plasmid (r): sc-270465-SH, Integrin β5 shRNA (h) Lentiviral Particles: sc-35680-V, Integrin β5 shRNA (m) Lentiviral Particles: sc-35681-V and Integrin β5 shRNA (r) Lentiviral Particles: sc-270465-V.

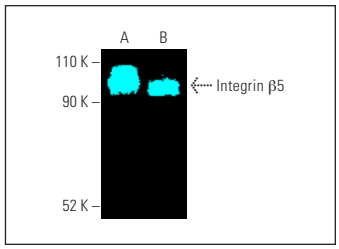
Molecular Weight of Integrin β5: 100 kDa.

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

DATA



Integrin β5 (F-5): sc-398214. Western blot analysis of Integrin β5 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 β5 (F-5): sc-398214. Fluorescent western blot analysis of Integrin β5 expression in A549 (**A**) and SW480 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 647: sc-516179.

SELECT PRODUCT CITATIONS

1. Abe, A., et al. 2018. αV/β5 Integrin mediates the effect of vitronectin on the initial stage of differentiation in mouse cerebellar granule cell precursors. Brain Res. 1691: 94-104.
2. 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.
3. Phan, Q.T., et al. 2022. Serum bridging molecules drive candidal invasion of human but not mouse endothelial cells. PLoS Pathog. 18: e1010681.
4. Kerhervé, M., et al. 2022. Neuropilin-1 modulates the 3D invasive properties of glioblastoma stem-like cells. Front. Cell Dev. Biol. 10: 981583.
5. Tang, C., et al. 2023. Treadmill exercise alleviates cognition disorder by activating the FNDC5: dual role of Integrin αV/β5 in Parkinson's disease. Int. J. Mol. Sci. 24: 7830.

RESEARCH USE

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