

Integrin $\alpha 5$ (C-9): sc-376199

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: ITGA5 (human) mapping to 12q13.13; Itga5 (mouse) mapping to 15 F3.

SOURCE

Integrin $\alpha 5$ (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 867-894 at the C-terminus of Integrin $\alpha 5$ of human origin.

PRODUCT

Each vial contains 200 μg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin $\alpha 5$ (C-9) is available conjugated to agarose (sc-376199 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-376199 HRP), 200 μg /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376199 PE), fluorescein (sc-376199 FITC), Alexa Fluor[®] 488 (sc-376199 AF488), Alexa Fluor[®] 546 (sc-376199 AF546), Alexa Fluor[®] 594 (sc-376199 AF594) or Alexa Fluor[®] 647 (sc-376199 AF647), 200 μg /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376199 AF680) or Alexa Fluor[®] 790 (sc-376199 AF790), 200 μg /ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376199 P, (100 μg 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

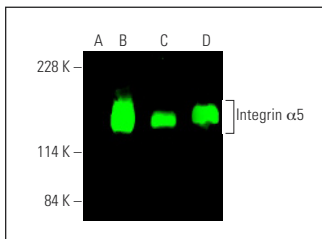
Integrin $\alpha 5$ (C-9) is recommended for detection of Integrin $\alpha 5$ heavy chain of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 $\alpha 5$ siRNA (h): sc-29372, Integrin $\alpha 5$ siRNA (m): sc-35687, Integrin $\alpha 5$ shRNA Plasmid (h): sc-29372-SH, Integrin $\alpha 5$ shRNA Plasmid (m): sc-35687-SH, Integrin $\alpha 5$ shRNA (h) Lentiviral Particles: sc-29372-V and Integrin $\alpha 5$ shRNA (m) Lentiviral Particles: sc-35687-V.

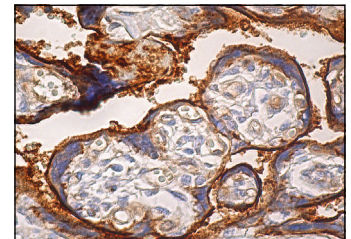
Molecular Weight of Integrin $\alpha 5$: 150 kDa.

Positive Controls: Integrin $\alpha 5$ (h3): 293T Lysate: sc-158642, JAR cell lysate: sc-2276 or HUV-EC-C whole cell lysate: sc-364180.

DATA



Integrin $\alpha 5$ (C-9): sc-376199. Near-infrared western blot analysis of Integrin $\alpha 5$ expression in non-transfected 293T: sc-117752 (A), human Integrin $\alpha 5$ transfected 293T: sc-158642 (B), JAR (C) and HUV-EC-C (D) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGx BP-CFL 680: sc-516180.



Integrin $\alpha 5$ (C-9): sc-376199. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells.

SELECT PRODUCT CITATIONS

- Villegas-Pineda, J.C., et al. 2015. Integrins and haptoglobin: molecules overexpressed in ovarian cancer. *Pathol. Res. Pract.* 211: 973-981.
- Lee, S., et al. 2020. Hereditary spastic paraplegia SPG8 mutations impair CAV1-dependent, integrin-mediated cell adhesion. *Sci. Signal.* 13: eaau7500.
- Tang, C., et al. 2021. A human model of Batten disease shows role of CLN3 in phagocytosis at the photoreceptor-RPE interface. *Commun. Biol.* 4: 161.
- Li, H., et al. 2022. EXOC4 promotes diffuse-type gastric cancer metastasis via activating FAK signal. *Mol. Cancer Res.* 20: 1021-1034.
- Kuramoto, K., et al. 2023. Exercise-activated hepatic autophagy via the FN1- $\alpha 5\beta 1$ integrin pathway drives metabolic benefits of exercise. *Cell Metab.* 35: 620-632.e5.

RESEARCH USE

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