Human Integrin α3/CD49c Antibody
Monoclonal Mouse IgG1, Clone # IA3
Catalog Number: MAB1345

DESCRIPTION
Species Reactivity Human
Specificity Detects human Integrin α3/CD49c.
Source Monoclonal Mouse IgG1, Clone # IA3
Purification Protein A or G purified from hybridoma culture supernatant
Immunogen Human milk epithelial cell line
Formulation Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

APPLICATIONS
Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Recommended Concentration
Sample
Flow Cytometry 0.25 μg/10^6 cells See Below
Immunocytochemistry 8-25 μg/mL See Below
CyTOF-ready Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.

DATA
Flow Cytometry
Detection of Integrin alpha 3/CD49c in HT1080 Human Cell Line by Flow Cytometry. HT1080 human fibrosarcoma cell line was stained with Mouse Anti-Human Integrin alpha 3/CD49c Monoclonal Antibody (Catalog # MAB1345, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram) followed by anti-Mouse IgG PE-conjugated secondary antibody (Catalog # F0102B). View our protocol for Staining Membrane-associated Proteins.

Immunocytochemistry
Integrin α3/CD49c in HT1080 Human Cell Line. Integrin α3/CD49c was detected in immersion fixed HT1080 human fibrosarcoma cell line using Mouse Anti-Human Integrin α3/CD49c Monoclonal Antibody (Catalog # MAB1345) at 25 μg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to plasma membranes and cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE
Reconstitution Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND
VLA-3 (Very Late Antigen 3) is a member of the integrin family, β1 subfamily, of cell membrane adhesion molecules (1-3). Integrins are nonsulfide-linked transmembrane (TM) heterodimers that contain an α- and β-subunit (1). VLA-3 is composed of an α3 and β1 subunit. The α3/CD49c subunit is a 130-150 kDa type I TM glycoprotein. It only associates with the β1 integrin subunit. It is synthesized as a 1051 amino acid (aa) precursor that undergoes proteolytic cleavage to generate a disulfide-linked 110 kDa, 843 aa extracellular heavy chain and a 30 kDa, 176 aa TM/cytosplasmic light chain (1, 4, 5, 6). The heavy chain contains seven 60 aa repeats that fold into a propeller-like structure (7). Sequences involving the first three repeats are associated with ligand binding (1). The light chain has two cytoplasmic alternate splice forms. The A form cytoplasmic domain is 52 aa, while the B form cytoplasmic domain is 37 aa (5). Human α3 heavy chain is 88% aa identical to mouse heavy chain. VLA-3 is known to bind fibronectin, collagen, and laminin-1, 5, 8, 10 and 11 (1). It also binds tetraspanins such as CD9, CD63 and CD151. CD151 binding may actually stabilize VLA-3, enabling it to bind to additional factors (8).

References:

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