

Human Integrin $\alpha 3$ /CD49c Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG₁ Clone # IA3

Catalog Number: FAB1345U

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Integrin $\alpha 3$ /CD49c.
Source	Monoclonal Mouse IgG ₁ Clone # IA3
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human milk epithelial cell line
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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	0.25-1 µg/10 ⁶ cells	HT1080 human fibrosarcoma cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

VLA-3 (Very Late Antigen 3) is a member of the integrin family, $\beta 1$ subfamily, of cell membrane adhesion molecules (1-3). Integrins are nondisulfide-linked transmembrane (TM) heterodimers that contain an α - and β -subunit (1). VLA-3 is composed of an $\alpha 3$ and $\beta 1$ subunit. The $\alpha 3$ /CD49c subunit is a 130-150 kDa type I TM glycoprotein. It only associates with the $\beta 1$ 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/cytoplasmic 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 $\alpha 3$ 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:

1. Tsuji, T. *et al.* (2004) J. Membr. Biol. **200**:115.
2. Gu, J. and N. Taniguchi (2004) Glycoconj. J. **21**:9.
3. Kreidberg, J.A. (2000) Curr. Opin. Cell Biol. **12**:548.
4. Takada, Y. *et al.* (1991) J. Cell. Biol. **115**:257.
5. de Melker, A.A. *et al.* (1997) Lab. Invest. **76**:547.
6. Krokhn, O.V. *et al.* (2003) Biochemistry **42**:12950.
7. Springer, T.A. (2002) Curr. Opin. Struct. Biol. **12**:802.
8. Nishiuchi, R. *et al.* (2005) Proc. Natl. Acad. Sci. USA **102**:1939.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc. and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.