

DESCRIPTION

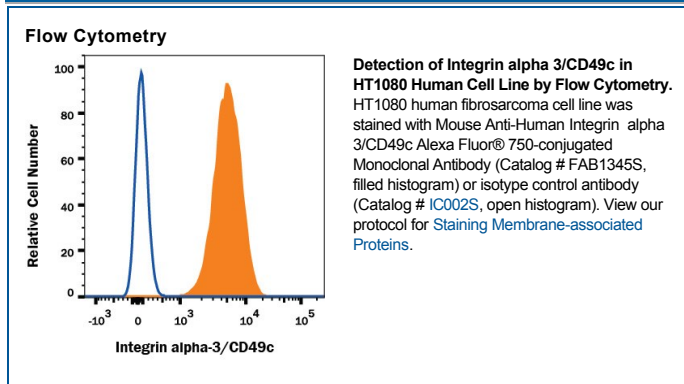
Species Reactivity	Human
Specificity	Detects human Integrin α 3/CD49c.
Source	Monoclonal Mouse IgG ₁ Clone # IA3
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human milk epithelial cell line
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 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 μ g/10 ⁶ cells	See Below

DATA



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. <ul style="list-style-type: none"> 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, β 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 α 3 and β 1 subunit. The α 3/CD49c subunit is a 130-150 kDa type I TM glycoprotein. It only associates with the β 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 α 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:

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4. Takada, Y. *et al.* (1991) *J. Cell. Biol.* **115**:257.
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7. Springer, T.A. (2002) *Curr. Opin. Struct. Biol.* **12**:802.
8. Nishiuchi, R. *et al.* (2005) *Proc. Natl. Acad. Sci. USA* **102**:1939.

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