

## DESCRIPTION

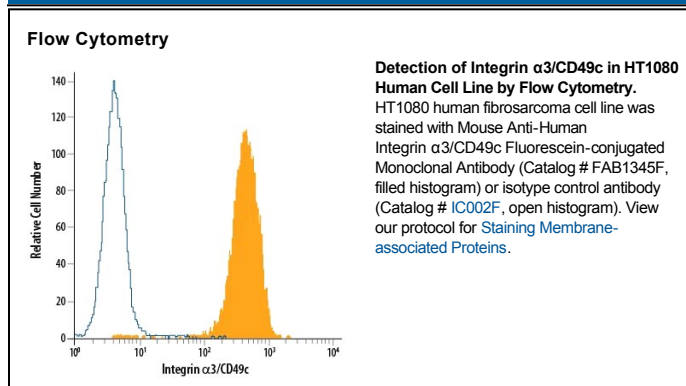
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Integrin $\alpha$ 3/CD49c.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # IA3
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Human milk epithelial cell line
<b>Conjugate</b>	Fluorescein Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm (FITC)
<b>Formulation</b>	Supplied 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
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> ● 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  $\alpha$ - and  $\beta$ -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.