

## 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>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

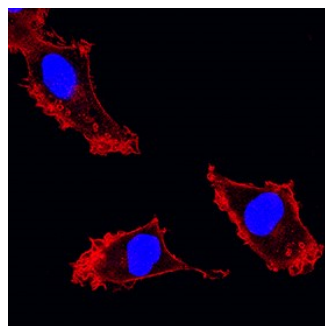
## APPLICATIONS

**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>	2.5 $\mu$ g/10 <sup>6</sup> cells	HT1080 human fibrosarcoma cell line
<b>Immunocytochemistry</b>	8-25 $\mu$ g/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA

### Immunocytochemistry



**Integrin  $\alpha$ 3/CD49c in HT1080 Human Cell Line.** Integrin  $\alpha$ 3/CD49c was detected in immersion fixed HT1080 human fibrosarcoma cell line using Mouse Anti-Human Integrin  $\alpha$ 3/CD49c Monoclonal Antibody (Catalog # MAB1345) at 25  $\mu$ g/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

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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:

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3. Kreidberg, J.A. (2000) *Curr. Opin. Cell Biol.* **12**:548.
4. Takada, Y. *et al.* (1991) *J. Cell. Biol.* **115**:257.
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8. Nishiuchi, R. *et al.* (2005) *Proc. Natl. Acad. Sci. USA* **102**:1939.