# Human Integrin αVβ3
# Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse $IgG_1$ Clone # 23C6

Catalog Number: FAB3050T

100 µg

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Human |
| **Specificity** | Detects human Integrin αVβ3. |
| **Source** | Monoclonal Mouse $IgG_1$ Clone # 23C6 |
| **Purification** | Protein A or G purified from hybridoma culture supernatant |
| **Immunogen** | Human osteoclasts |
| **Conjugate** | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm |
| **Formulation** | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*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 | HUVEC human umbilical vein endothelial cells |

## 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.**<br>● 12 months from date of receipt, 2 to 8 °C as supplied. |

## BACKGROUND

Integrin αVβ3 together with αIIbβ$_3$, constitutes the only known β3 Integrins (1-3). The non-covalent heterodimer of 170 kDa αV/CD51 and 93 kDa β$_3$/CD61 subunits shows wide expression, notably by endothelial cells and osteoclasts (2-4). Each subunit has a transmembrane sequence and a short cytoplasmic tail connected to the cytoskeleton. Active cell surface αVβ3 adheres to matrix proteins including vitronectin, fibronectin, fibrinogen and thrombospondin (2, 3). The ligand binding site of αVβ3 is in the N-terminal head region, formed by interaction of the β3 vWFA domain with the αV beta-propeller structure (4). The αV subunit contributes a thigh and a calf region, while the β3 subunit contains a PSI domain and four cysteine-rich I-EGF folds. The αV subunit domains termed thigh, calf-1 and calf-2 generate a “knee” region that is bent when the αVβ3 is in its constitutively inactive state. Activation, either by “inside out” signaling or by $Mg^{2+}$ or $Mn^{2+}$ binding, extends the Integrin to expose its ligand binding site (1, 4). Two splice variants of β3 (b and c) diverge over the last 21 amino acids (aa) and lack cytoplasmic phosphorylation sites (5, 6). Another β3 splice variant diverges after the vWFA domain, producing a soluble 60 kDa form in platelets and endothelial cells (7). αVβ3 is essential for the maturation of osteoclasts and their binding and resorption of bone; it also, however, promotes their apoptosis (8, 9). M-CSF R and αVβ3 share signaling pathways during osteoclastogenesis, and deletion of either molecule causes osteopetrosis (8, 9). Also cell entry of several viruses is mediated by αVβ3 (4, 10). The 962 aa human αV ECD (11) shares 92-95% aa sequence identity with mouse, rat and cow αV while the 685 aa human β$_3$ ECD (12) shares 95% aa identity with horse and dog, and 89-92% aa identity with mouse, rat and pig β$_3$.

**References:**


1. Hynes, R. O. (2002) Cell **110**:673.
2. Serini, G. *et al.* (2006) Exp. Cell Res. **312**:651.
3. Ross, F. P. and S. L. Teitelbaum (2005) Immunol. Rev. **208**:88.
4. Xiong, J. *et al.* (2001) Science **294**:339.
5. Kumar, C. S. *et al.* (1987) J. Biol. Chem. **272**:16390.
6. vanKuppevelt, H. *et al.* (1989) Proc. Natl. Acad. Sci. USA **86**:5415.
7. Djaffar, I. *et al.* (1994) Biochem. J. **300**:67.
8. McHugh, K. P. *et al.* (2000) J. Clin. Invest. **105**:433.
9. Faccio, R. *et al.* (2003) J. Clin. Invest. **111**:749.
10. Chu, J. J. and M. Ng (2004) J. Biol. Chem. **279**:54533.
11. Suzuki, S. *et al.* (1987) J. Biol. Chem. **262**:14060.
12. Fitzgerald, L. A. *et al.* (1987) J. Biol. Chem. **262**:3936.




bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

# Human Integrin αVβ3
# Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse $IgG_1$ Clone # 23C6

Catalog Number: FAB3050T
100 µg

## 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.



bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449