Human Integrin αVβ3 PE-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 23C6

Catalog Number: FAB3050P

100 TESTS

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	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	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.

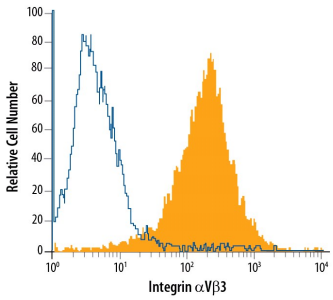
APPLICATIONS

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
Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of Integrin αVβ3 in HUVEC Human Cells by Flow Cytometry. HUVEC human umbilical vein endothelial cells were stained with Mouse Anti-Human Integrin αVβ3 PE-conjugated Monoclonal Antibody (Catalog # FAB3050P, filled histogram) or isotype control antibody (Catalog # IC002P, open histogram). View our protocol for Staining Membrane-associated Proteins.

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.

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BACKGROUND

Integrin αVβ3, together with Integrin αIIbβ3, constitute the only known β3 Integrins (1–3). The non-covalent heterodimer of 170 kDa αV/CD51 and 93 kDa β3/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 β3 ECD (12) shares 95% aa identity with horse and dog, and 89–92% aa identity with mouse, rat and pig β3.

References:

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