Human Integrin α2b/CD41
Alexa Fluor® 488-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2530A
Catalog Number: FAB76161G
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects Human Integrin α2bβ3 heterodimer in direct ELISAs. In direct ELISAs, no cross-reactivity with recomabint human (rh) Integrin α2b, rhIntegrin α5, rhIntegrin α5β6, rhIntegrin α8β1, rhIntegrin β1, rhIntegrin β2, rhIntegrin β3, rhIntegrin β5, rhIntegrin β7, and recombinant mouse Integrin α2bβ3.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2530A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived heterodimer of Human Integrin α2b (Leu32-Arg993, Accession P08514) and Human Integrin β3 (Gly27-Asp718, Accession P05106)
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *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	Human peripheral blood platelets

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.

BACKGROUND

Integrin α2bβ3 (also αIIbβ3 or GPIIbIIIa) is the only α2b integrin and shares the β3 subunit only with αVβ3 (1-3). It is the non-covalent heterodimer of type I transmembrane subunits, α2b/CD41 (present as a disulfide-linked complex of 114 kDa heavy and 22 kDa light chains) and 93 kDa β3/CD61 (1-3). It is the most abundant integrin expressed by megakaryocytes and platelets, both on the surface and within α granules (1, 2). Deficiencies of α2bβ3 produce Glanzmann thrombasthenia, a potentially serious bleeding disorder (4). In its constitutively inactive state, α2bβ3 is flexed within the extracellular domains. Activation, either by intracellular signaling or by Mg^{2+} or Mn^{2+} binding, extends the integrin to expose the ligand binding site created by interaction of the β3 vWFA domain with the α2b β-propeller structure (1). The 962 aa human α2b ECD shares 78-83% aa sequence identity with mouse, rat, canine, equine and porcine α2b while the 685 aa human β3 ECD shares 95% aa identity with horse and dog, and 89-92% aa identity with mouse, rat and porcine β3. It is unclear whether splice variants of β3 that differ in the cytoplasmic domain are expressed significantly in platelets (5-7). However, platelet expression of a β3 splice variant that produces a soluble 60 kDa β3 isoform, and an α2b isoform lacking aa 948-982, have been reported (7, 8). Active cell surface α2bβ3 adheres to fibrinogen, mediating platelet/platelet interactions that initiate a cascade of platelet activation and aggregation, extracellular matrix adhesion, formation of thrombi and clot retraction (1). It also binds matrix proteins that have an RGD motif, including fibronectin, plasminogen, prothrombin, thrombospondin and vitronectin (1, 2). Targeting of α2bβ3 by therapeutic antibodies or small molecules can inhibit formation of thrombi in patients with acute coronary syndrome, and potentially inhibits tumor angiogenesis and metastasis by blocking interaction of platelet α2bβ3 with tumor cells (1, 9).

References:

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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

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USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449