

DESCRIPTION

Species Reactivity	Human
Specificity	Detects Human Integrin $\alpha 2b\beta 3$ heterodimer in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) Integrin $\alpha 2b$, rhIntegrin $\alpha 5$, rhIntegrin $\alpha 5\beta 6$, rhIntegrin $\alpha 8\beta 1$, rhIntegrin $\beta 1$, rhIntegrin $\beta 2$, rhIntegrin $\beta 3$, rhIntegrin $\beta 5$, rhIntegrin $\beta 7$, and recombinant mouse Integrin $\alpha 2b\beta 3$.
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 $\alpha 2b$ (Leu32-Arg993, Accession P08514) and Human Integrin $\beta 3$ (Gly27-Asp718, Accession P05106)
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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 μ g/ 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 $\alpha 2b\beta 3$ (also $\alpha IIb\beta 3$ or GPIIb/IIIa) is the only $\alpha 2b$ integrin and shares the $\beta 3$ subunit only with $\alpha V\beta 3$ (1-3). It is the non-covalent heterodimer of type I transmembrane subunits, $\alpha 2b/CD41$ (present as a disulfide-linked complex of 114 kDa heavy and 22 kDa light chains) and 93 kDa $\beta 3/CD61$ (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 $\alpha 2b\beta 3$ produce Glanzmann thrombasthenia, a potentially serious bleeding disorder (4). In its constitutively inactive state, $\alpha 2b\beta 3$ 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 $\beta 3$ vWFA domain with the $\alpha 2b$ β -propeller structure (1). The 962 aa human $\alpha 2b$ ECD shares 78-83% aa sequence identity with mouse, rat, canine, equine and porcine $\alpha 2b$ while the 685 aa human $\beta 3$ ECD shares 95% aa identity with horse and dog, and 89-92% aa identity with mouse, rat and porcine $\beta 3$. It is unclear whether splice variants of $\beta 3$ that differ in the cytoplasmic domain are expressed significantly in platelets (5-7). However, platelet expression of a $\beta 3$ splice variant that produces a soluble 60 kDa $\beta 3$ isoform, and an $\alpha 2b$ isoform lacking aa 948-982, have been reported (7, 8). Active cell surface $\alpha 2b\beta 3$ 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 $\alpha 2b\beta 3$ 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 $\alpha 2b\beta 3$ with tumor cells (1, 9).

References:

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4. Franchini, M. *et al.* (2010) *Clin. Chim. Acta* **411**:1.
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6. van Kuppevelt, H. *et al.* (1989) *Proc. Natl. Acad. Sci. USA* **86**:5415.
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Human Integrin α 2b/CD41 Alexa Fluor® 405-conjugated Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2530A

Catalog Number: FAB76161V

100 μ g

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