

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD42b/GPIb α in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD42b/GPIb α His17-Leu505 Accession # P07359
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% 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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.

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

Platelet glycoprotein Ib alpha chain (GPIb α), also known as CD42b α , is a 145 kDa type I transmembrane protein that is a member of the leucine-rich repeat (LRR) family of ligand binding proteins (1-3). It is expressed by platelets as the ligand-binding subunit of the platelet GPIb-IX-V complex (4). Human GPIb α contains a 16 amino acid (aa) signal sequence, a 489 aa extracellular domain (ECD), a 21-aa transmembrane domain, and a 100 aa cytoplasmic region. The ECD contains 8 LRRs, with # 2, 3, and 4 having been demonstrated to regulate shear-dependent adhesion to von Willebrand factor (vWF) (5, 6). The LRRs are followed by a thrombin-binding anionic region that includes three sulfated tyrosines, a sialomucin domain with N- and O-linked carbohydrates, and two cysteines near the membrane that allow dimerization with GP1b $\alpha\beta$ (1-6). Four human isoforms with 1 to 4 repeats of aa 398-411 within the sialomucin domain of mature GPIb α are known to exist but have unknown significance (7). The ECD of human GPIb α shares 48-51% aa identity with mouse, rat, bovine, and canine GPIb α . The metalloproteinase TACE/ADAM17 constitutively and inducibly cleaves GPIb α , between Gly480 and Val481. This releases a soluble form called glycofalin that circulates at ~2 μ g/mL (8, 9). GPIb α binding to ligands such as thrombin, kininogen, and coagulation factors XI and XII helps to initiate platelet activation and coordinate the coagulation cascade (1, 10-12). Binding of GPIb α to vWF or thrombospondin in the plasma or matrix, vWF or P-selectin on endothelial cells, or the integrin α M β 2 (MAC-1) on myeloid cells, controls response to vascular injury (1, 13). Bernard-Soulier syndrome and platelet-type von Willebrand disease are platelet function disorders that can be caused by mutations in GPIb α (1, 14).

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.