Human CD42b/GPIb α Alexa Fluor® 647-conjugated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4067R
100 µg

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 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 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 αβ (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 glycocalicin that circulates at ~2 µg/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 αMβ2 (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

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