

## DESCRIPTION

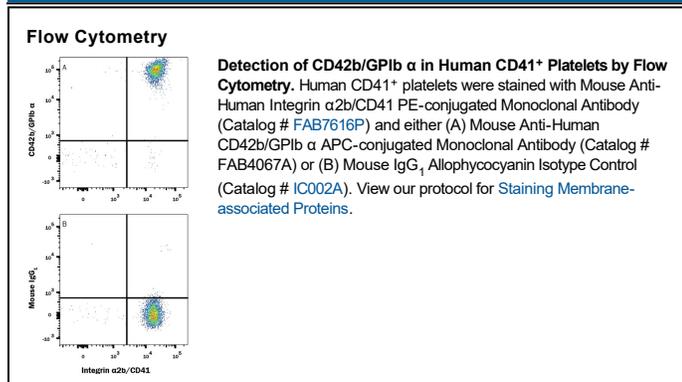
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CD42b/GPIb $\alpha$ in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 486805
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human CD42b/GPIb $\alpha$ His17-Leu505 Accession # P07359.1
<b>Conjugate</b>	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
<b>Formulation</b>	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
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

Platelet glycoprotein Ib alpha chain (GPIb  $\alpha$ ), also known as CD42b, is a 140-150 kDa type I transmembrane protein that is a member of the leucine-rich repeat (LRR) family of ligand binding proteins. It is expressed by platelets as the ligand-binding subunit of the platelet GPIb-IX-V complex. Human CD42b 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). 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. Four human isoforms with 1 to 4 repeats of aa 398-411 within the sialomucin domain of mature CD42b are known to exist but have unknown significance. The ECD of human CD42b shares 48-51% aa identity with mouse, rat, bovine, and canine CD42b. The metalloproteinase TACE/ADAM17 constitutively and inducibly cleaves CD42b, between Gly480 and Val481. This releases an 85-90 kDa soluble form called glycofalin that circulates at ~2  $\mu$ g/mL. CD42b binding to ligands such as thrombin, kininogen, and coagulation factors XI and XII helps to initiate platelet activation and coordinate the coagulation cascade. Binding of CD42b to vWF or thrombospondin in the plasma or matrix, vWF or P-selectin on endothelial cells, or the integrin  $\alpha$ IIb $\beta$ 3 (MAC-1) on myeloid cells, controls response to vascular injury. Bernard-Soulier syndrome and platelet-type von Willebrand disease are platelet function disorders that can be caused by mutations in CD42b.