

Human GP1BB / CD42c Protein (His Tag)

Catalog Number: 10742-H08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

BDPLT1; BS; CD42C; GPIBB

Protein Construction:

A DNA sequence encoding the human GPIb, β polypeptide extracellular domain (NP_000398.1) (Met 1-Cys 147) with a C-terminal polyhistidine tag was expressed.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μ g of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Pro 27

Molecular Mass:

The recombinant human GPIb β chain comprises 132 amino acids with a predicted molecular mass of 14.3 kDa. As a result of glycosylation, it migrates as an approximately 20 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

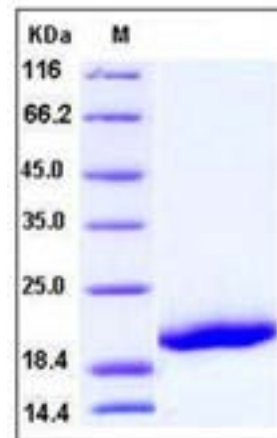
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Platelet glycoprotein Ib (GPIb) complex is best known as a major platelet receptor for von Willebrand factor essential for platelet adhesion under high shear conditions found in arteries and in thrombosis. The GPIb complex is composed of GPIb alpha (Platelet glycoprotein Ib alpha chain) covalently attached to GPIb beta (Platelet glycoprotein Ib beta chain) and noncovalently complexed with GPIX and GPV. GPIb-beta, also known as GP1BB, CD42b-beta and CD42c, is single-pass type I membrane protein expressed in heart and brain, which is a critical component of the von Willebrand factor (vWF) receptor. The cysteine knot region of GPIb beta in the N terminus is critical for the conformation of GPIb beta that interacts with GPIX. The precursor of GP1BB is synthesized from a 1.0 kb mRNA expressed in platelets and megakaryocytes. GPIb is a heterodimeric transmembrane protein consisting of a disulfide-linked 140 kD alpha chain and 22 kD beta chain. GPIb alpha chain provides the vWF binding site, and GPIb beta chain contributes to surface expression of the receptor and participates in transmembrane signaling through phosphorylation of its intracellular domain. GP1BB is part of the GPIb-V-IX system that constitutes the receptor for von Willebrand factor (vWF), and mediates platelet adhesion in the arterial circulation. Defects in GP1BB are a cause of Bernard-Soulier syndrome (BSS), also known as giant platelet disease (GPD). BSS patients have unusually large platelets and have a clinical bleeding tendency.

References

- 1.Kenny D, *et al.* (2002) The cysteine knot of platelet glycoprotein Ib beta (GPIb beta) is critical for the interaction of GPIb beta with GPIX. *Blood*. 99(12): 4428-33.
- 2.Tang J,*et al.* (2004) Mutation in the leucine-rich repeat C-flanking region of platelet glycoprotein Ib beta impairs assembly of von Willebrand factor receptor. *Thromb Haemost.* 92(1): 75-88.
- 3.Vanhoorelbeke K, *et al.* (2007) Inhibition of platelet glycoprotein Ib and its antithrombotic potential. *Curr Pharm Des.* 13(26): 2684-97.

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