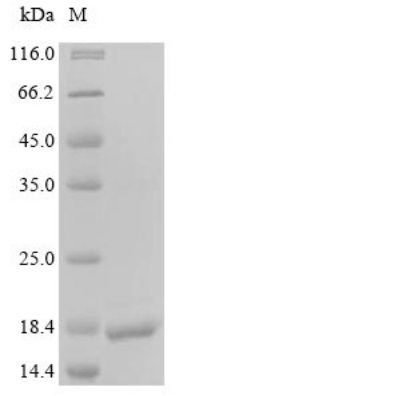
Recombinant Human Platelet glycoprotein Ib alpha chain (GP1BA), partial

Product Code	CSB-EP009685HU1
Relevance	GP-Ib, a surface membrane protein of platelets, participates in the formation of platelet plugs by binding to the A1 domain of vWF, which is already bound to the subendothelium.
Abbreviation	Recombinant Human GP1BA protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P07359
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	SWVGHVKPQALDSGQGAALTTATQTTHLELQRGRQVTVPRAWLLFLRGSLPT FRSSLFLWVRPNGRVGPLVAGRRPSALSQGRGQDLLSTVSIRYSGHSL
Research Area	Immunology
Source	E.coli
Target Names	GP1BA
Protein Names	Antigen CD42b-alpha CD_antigen: CD42b
Expression Region	553-652aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	15.9 kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Glycoprotein Ibalpha (GP1BA) is a crucial protein involved in platelet function and hemostasis. It encodes the GPIbα subunit of the GPIb-IX-V complex, which acts as a receptor for von Willebrand factor (VWF) [1]. This interaction with VWF is essential for platelet adhesion and aggregation, playing a pivotal role in primary hemostasis [2]. GP1BA is also known to bind to a wide array of ligands in addition to VWF, indicating its multifaceted role in platelet function.

Furthermore, GP1BA is implicated in various platelet-related disorders. Gain-of-function mutations in the GP1BA gene have been associated with Platelet-type von Willebrand disease (PT-VWD), an autosomal dominant platelet function disorder [3]. Additionally, GP1BA mutations have been described in Bernard-Soulier syndrome, a rare inherited bleeding disorder characterized by thrombocytopenia and unusually large platelets [4]. These findings underscore the significance of GP1BA in maintaining normal platelet function and hemostasis.

Moreover, GP1BA has been identified as a key player in platelet adhesion and aggregation processes. It forms the GPIb complex, which interacts non-covalently with other subunits to facilitate platelet adhesion and activation [5]. Studies have also highlighted the role of GP1BA in collagen receptor-mediated platelet activation, emphasizing its involvement in physiological processes beyond VWF binding [6].

References:

[1] Z. Nagy, T. Vögtle, M. Geer, J. Mori, S. Heising, G. Nunzioet al., "The gp1ba-cre transgenic mouse: a new model to delineate platelet and leukocyte functions", Blood, vol. 133, no. 4, p. 331-343, 2019. https://doi.org/10.1182/blood-2018-09-877787

[2] E. Favaloro, "Phenotypic identification of platelet-type von willebrand disease and its discrimination from type 2b von willebrand disease: a question of 2b or not 2b? a story of nonidentical twins? or two sides of a multidenominational or multifaceted primary-hemostasis coin?", Seminars in Thrombosis and Hemostasis, vol. 34, no. 1, p. 113-127, 2008. https://doi.org/10.1055/s-2008-1066019

[3] M. Othman, H. Kaur, E. Favaloro, D. Lillicrap, J. Paola, P. Harrisonet al., "Platelet type von willebrand disease and registry report: communication from the ssc of the isth", Journal of Thrombosis and Haemostasis, vol. 14, no. 2, p. 411-414, 2016. https://doi.org/10.1111/jth.13204

[4] J. Ma, Z. Chen, G. Li, H. Gu, & R. Wu, "A novel mutation in gp1ba gene in a family with autosomal dominant bernard soulier syndrome variant: a case report", Experimental and Therapeutic Medicine, vol. 21, no. 4, 2021. https://doi.org/10.3892/etm.2021.9791
[5] M. Minkov, P. Zeitlhofer, A. Zoubek, L. Kager, S. Panzer, & O. Haas, "Novel compound heterozygous mutations in two families with bernard–soulier syndrome", Frontiers in Pediatrics, vol. 8, 2021. https://doi.org/10.3389/fped.2020.589812
[6] J. Shen, X. Chen, W. Li, Q. Han, C. Chen, J. Luet al., "Identification of parkinson's disease-related pathways and potential risk factors", Journal of International Medical Research, vol. 48, no. 10, p. 030006052095719, 2020. https://doi.org/10.1177/0300060520957197

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.