



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD140 Protein
Catalog Number: hRP-1202
Manufacturer: LD Biopharma, Inc.

Introduction

Human platelet-derived growth factor receptor beta (PDGFRB, CD140b) gene encodes a cell surface tyrosine kinase receptor for members of the platelet-derived growth factor family. These growth factors are mitogens for cells of mesenchymal origin. The identity of the growth factor bound to a receptor monomer determines whether the functional receptor is a homodimer or a heterodimer, composed of both platelet-derived growth factor receptor alpha and beta polypeptides. This gene is flanked on chromosome 5 by the genes for granulocyte-macrophage colony-stimulating factor and macrophage-colony stimulating factor receptor; all three genes may be implicated in the 5-q syndrome. A translocation between chromosomes 5 and 12, that fuses this gene to that of the translocation, ETV6, leukemia gene, results in chronic myeloproliferative disorder with eosinophilia.

Full-length extracellular domain of human CD140b cDNA (33 – 532 aa, derived from BC032224) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: CD140b (PDGFRB; IMF1; PDGFR1)
Accession Number: NP_002600
Species: Human
Size: 25 µg / Vial
Composition: 0.25 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Cinq-Frais,C., et al., *A signaling cascade mediated by ceramide, src and PDGFRbeta coordinates the activation of the redox-sensitive neutral sphingomyelinase-2 and sphingosine kinase-1*. *Biochim. Biophys. Acta* 1831 (8), 1344-1356 (2013)

Bedekovics,J., et al., *Platelet derived growth factor receptor-beta (PDGFRbeta) expression is limited to activated stromal cells in the bone marrow and shows a strong correlation with the grade of myelofibrosis*. *Virchows Arch.* 463 (1), 57-65 (2013)

Campbell,A.D., et al., *P-Rex1 cooperates with PDGFRbeta to drive cellular migration in 3D microenvironments*. *PLoS ONE* 8 (1), E53982 (2013)

Applications

1. May be used for in vitro CD140b protein mediated stromal cell interactions in bone marrow for human HSC differentiation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as CD140b protein-protein interaction assay.
3. As enzymatic substrate for various proteases.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGFLVVTTPGPELVLNVSSTFVLTCSGSAPVWVERMSQ
EPPQEMAKAQDGTFFSSVLTLTNLTGLDTGEYFCTHNSRGLTDERKRLYIFVPDPTVGFLPND
AEELFIFLTEITEITIPCRVTDPQLVVTLHEKKGDVALPVPYDHQRGFSGIFEDRSYICKTTIG
DREVSDAYVYRLQVSSINVSVNAVQTVVRQGENITLMCIVIGNEVVNFETYPRKESGRLVE
PVTDFLLDMPYHIRSILHIPSAAELEDSTYTCNVTESVNDHQDEKAINITVVESGYVRLGVEG
TLQFAELHRSTLQVVFEAYPPPTVLWFKDNRTLGDSSAGEIALSTRNVSETRYVSELTLVRVK
VAEAGHYTMRAFHEDAQVLSFQLQINVPVRVLELSESHPDSEGTQVRCRGRGMPQPNIIWSAC
RDLKRCPRELPPTLLGNSSEEEESQLETNVTYWEEEQEFVSTLRLQHVDRPLSVRCTLRNAVG
QDTQEVIVPHSLPFKV