



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD142 Protein
Catalog Number: hRP-1031
Manufacturer: LD Biopharma, Inc.

Introduction

Human CD142 gene encodes coagulation factor III, which is a cell surface glycoprotein. CD142 protein enables cells to initiate the blood coagulation cascades, and it functions as the high-affinity receptor for the coagulation factor VII. The resulting complex provides a catalytic event that is responsible for initiation of the coagulation protease cascades by specific limited proteolysis. Unlike the other cofactors of these protease cascades, which circulate as nonfunctional precursors, CD142 is a potent initiator that is fully functional when expressed on cell surfaces. There are 3 distinct domains of this factor: extracellular, transmembrane, and cytoplasmic. CD142 protein is the only one in the coagulation pathway for which a congenital deficiency has not been described. Alternate splicing results in multiple transcript variants.

Full-length extracellular domain of human CD142 cDNA (33 - 251 aa, derived from BC011029) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal and 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: CD142 (F3; TF; TFA)
Accession Number: NP_001984
Species: Human
Size: 100 µg / Vial
Composition: 1.0 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

Godoi,L.C., et al., *Preeclampsia: the role of tissue factor and tissue factor pathway inhibitor*. J. Thromb. Thrombolysis 34 (1), 1-6 (2012)

Wang,J.G., et al., *Tumor-derived tissue factor activates coagulation and enhances thrombosis in a mouse xenograft model of human pancreatic cancer*. Blood 119 (23), 5543-5552 (2012)

Gebhard,C., et al., *Caffeine induces endothelial tissue factor expression via phosphatidylinositol 3-kinase inhibition*. Thromb. Haemost. 107 (5), 884-894 (2012)

Applications

1. May be used as coating or soluble factor for in blood coagulation pathway regulation study.
2. May be used for protein-protein interaction assay development.
3. May be used as potential diagnostic biomarker for monitoring tumor-mediated thrombosis.
4. As antigen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFEGTTNTVAAYNLTWKSTNFKTILEWEPKPVNQVYTV
QISTKSGDWKSKCFYTTDTECDLTDEIVKDVKQTYLARVFSYPAGNVESTGSAGEPLYENSPEF
TPYLETNLQOPTIQSFEQVGTGVNVTVEDERTLVRRNNTFLSLRDVFGKDLIYTLYYWKSSSSG
KKTAKTNTNEFLIDVDKGENYCFVQAVIPSRVNRKSTDSPVECMGQEKGEFRE