Human Coagulation Factor III / Tissue Factor / CD142 Protein (His Tag)

Catalog Number: **13133-H08B**

General Information

Gene Name Synonym:

CD142; coagulation factor 3; coagulation factor III; TF; TFA

Protein Construction:

A DNA sequence encoding the human F3 (NP_001984.1) (Met1-Ser295) was expressed with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE.

Endotoxin:

< 1.0 EU per μg protein as determined by the LAL method.

Stability:

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

Predicted N terminal: Ser 33

Molecular Mass:

The recombinant human F3 consists of 274 amino acids and predicts a molecular mass of 31 kDa.

Formulation:

Lyophilized from sterile 20 mM Tris, 500 mM NaCl, 10 % glycerol, pH 8.0.

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:

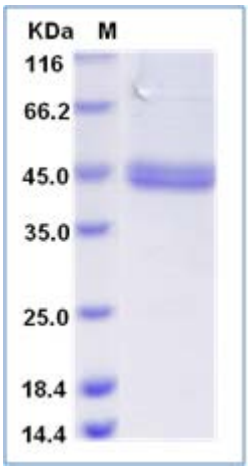
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Tissue factor (TF), also known as coagulation factor III, F3, and CD142, is a single-pass type I membrane protein which belongs to the tissue factor family. Tissue factor is one of the proteins that participate in hemostatic and inflammatory processes. Activated monocytes present in the liver increase expression of tissue factor, and while accumulating in the organ they can intensify inflammation. Tissue factor is the protein that activates the blood clotting system by binding to, and activating, the plasma serine protease, factor VIIa, following vascular injury. Tissue factor is not only the main physiological initiator of normal blood coagulation, but is also important in the natural history of solid malignancies in that it potentiates metastasis and angiogenesis and mediates outside-in signalling. Tissue factor is expressed constitutively by many tissues which are not in contact with blood and by other cells upon injury or activation; the latter include endothelial cells, tissue macrophages, and peripheral blood monocytes. Coagulation Factor III is a transmembrane glycoprotein that localizes the coagulation serine protease factor VII/VIIa (FVII/VIIa) to the cell surface. The primary function of TF is to activate the clotting cascade. The TF:FVIIa complex also activates cells by cleavage of a G-protein coupled receptor called protease-activated receptor 2 (PAR2). TF is expressed by tumor cells and contributes to a variety of pathologic processes, such as thrombosis, metastasis, tumor growth, and tumor angiogenesis. As a key regulator of haemostasis and angiogenesis, it is also involved in the pathology of several diseases, including cardiovascular, inflammatory and neoplastic conditions.

References

1.Morrissey JH. (2004) Tissue factor: a key molecule in hemostatic and nonhemostatic systems. Int J Hematol. 79(2): 103-8. 2.Milsom C, *et al.* (2008) Tissue factor and cancer. Pathophysiol Haemost Thromb. 36(3-4): 160-76. 3.Kasthuri RS, *et al.* (2009) Role of tissue factor in cancer. J Clin Oncol. 27(29): 4834-8.