

Human TFPI2 Protein (His Tag)

Catalog Number: 10545-H08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

PP5; REF1; TFPI-2

Protein Construction:

A DNA sequence encoding the human TFPI2 (NP_006519.1) precursor (Met 1-Lys 213) was expressed with a C-terminal polyhistidine tag.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to inhibit trypsin cleavage of a fluorogenic peptide substrate, Mca-RPKPVE-Nval-WRK(Dnp)-NH₂ (Anaspec, Catalog#27114). The IC₅₀ value is < 2 nM, as measured in 100μL reaction mixture containing 1.25 ng trypsin (Sigma, Catalog#T4799), 10 μM substrate, 50 mM Tris, 10 mM CaCl₂, 0.15M NaCl, 0.05% Brij-35, pH 7.5.

Endotoxin:

< 1.0 EU per μg 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: Asp 23

Molecular Mass:

The secreted recombinant humanTFPI2 comprises 202 amino acids and predicts a molecular mass of 23.2 kDa. It migrates as an approximately 32-34 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:

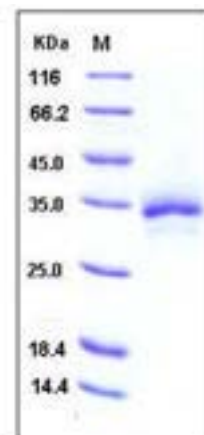
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Tissue factor pathway inhibitor-2 (TFPI2), a member of the Kunitz-type serine proteinase inhibitor family, is a structural homologue of tissue factor pathway inhibitor (TFPI). It is a 32 kDa matrix-associated glycoprotein consisting of a short amino-terminal region, three tandem Kunitz-type domains and a positively charged carboxy-terminal tail. TFPI2 inhibits plasmin-dependent activation of several metalloproteinases. TFPI2 is highly abundant in the full-term placenta and widely expressed in various adult human tissues, such as the liver, skeletal muscle, heart, kidney, and pancreas. The expression of TFPI2 in tumors is inversely related to an increasing degree of malignancy, which may suggest a role for TFPI2 in the maintenance of tumor stability and inhibition of the growth of neoplasms. TFPI2 inhibits the tissue factor/factor VIIa (TF/VIIa) complex and a wide variety of serine proteinases including plasmin, plasma kallikrein, factor XIa, trypsin, and chymotrypsin. TFPI2 is involved in regulating pericellular proteases implicated in a variety of physiologic and pathologic processes including cancer cell invasion, vascular inflammation, and atherosclerosis. TFPI2 has also been shown to induce apoptosis and inhibit angiogenesis, which may contribute significantly to tumor growth inhibition.

References

1. Peerschke EI, *et al.* (2004) Tissue factor pathway inhibitor-2 (TFPI-2) recognizes the complement and kininogen binding protein gC1qR/p33 (gC1qR): implications for vascular inflammation. *Thromb Haemost.* 92(4): 811-9.
2. Rollin J, *et al.* (2005) Expression and methylation status of tissue factor pathway inhibitor-2 gene in non-small-cell lung cancer. *Br J Cancer.* 92(4): 775-83.
3. Chand HS, *et al.* (2005) Structure, function and biology of tissue factor pathway inhibitor-2. *Thromb Haemost.* 94(6): 1122-30.

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