

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TFPI in ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant human (rh) Coagulation factor II, VII, XI, XIV, rhTFPI-2, recombinant mouse (rm) TFPI, rmTFPI-2, or rhVitronectin is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 374718
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human TFPI Asp29-Lys282 Accession # P10646
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

Human TFPI Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human TFPI Antibody (Catalog # MAB29741)
ELISA Detection	0.1-0.4 µg/mL	Human TFPI Biotinylated Antibody (Catalog # BAF2974)
Standard		Recombinant Human TFPI (Catalog # 2974-PI)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human TFPI, also known as lipoprotein-associated coagulation inhibitor (LACI) and extrinsic pathway inhibitor (EPI), is a physiological inhibitor of extrinsic pathway of coagulation and has biological functions of anticoagulation and anti-inflammation (1). It is a secreted protein with a N-terminal acidic region, three Kunitz (K) domains separated with by two linker regions, and a C-terminal basic region (2). The first K domain (residues 54 to 104) inhibits coagulation factor VIIa complexed to tissue factor (TF). The second K domain (residues 125 to 175) inhibits factor Xa. The third K domain (residues 217 to 267) binds to heparin (3). The C-terminal basic region may have several functions. For example, it plays an important role in binding of TFPI to cell surfaces (2). The purified rhTFPI ends at residue 282 and does not contain the last 20 residues (residues 283 to 302) in the C-terminal region. It inhibits the activity of rhCoagulation Factor VII (R&D Systems, Catalog # 2338-SE) in the presence of rhTissue Factor (R&D Systems, Catalog # 2339-PA). Human TFPI shares 60%, 59% and 58% amino acid sequence identity with rat, mouse and canine TFPI, respectively.

References:

1. Bai, H. *et al.* (2005) *Thromb Haemost.* **93**:1055.
2. Bajaj, M.S. *et al.* (2001) *Thromb Haemost.* **86**:959.
3. Mine, S. *et al.* (2002) *Biochemistry* **41**:78.