

BACKGROUND

The extrinsic pathway of blood coagulation is initiated by contact of plasma factor VII with tissue factor, a cellular membrane glycoprotein that normally is segregated from the bloodstream but can be exposed after tissue injury or newly synthesized in endothelial cells or leukocytes after stimulation by endotoxin and cytokines. Inhibition of Factor VIIa tissue factor activity requires a plasma component (tissue factor pathway inhibitor (TFPI), lipoprotein-associated coagulation inhibitor (LACI) or extrinsic pathway inhibitor (EPI)) and factor Xa. TFPI directly inhibits factor Xa, and, in an Xa-dependent fashion, also inhibits the Factor VIIa tissue factor catalytic complex. TFPI is a multivalent, Kunitz-type proteinase inhibitor that circulates in association with plasma lipoproteins VLDL, LDL, and HDL. TFPI-2 (also known as placental protein 5) is a related glycoprotein that was originally isolated from human placenta.

REFERENCES

1. Broze, G.J., Jr. and Miletich, J.P. 1987. Characterization of the inhibition of tissue factor in serum. *Blood* 69: 150-155.
2. Rao, L.V. and Rapaport, S.I. 1987. Studies of a mechanism inhibiting the initiation of the extrinsic pathway of coagulation. *Blood* 69: 645-651.
3. Davie, E.W., et al. 1991. The coagulation cascade: initiation, maintenance and regulation. *Biochemistry* 30: 10363-10370.
4. Girard, T.J., et al. 1991. Structure of the human lipoprotein-associated coagulation inhibitor gene. Intro/exon gene organization and localization of the gene to chromosome 2. *J. Biol. Chem.* 266: 5036-5041.

CHROMOSOMAL LOCATION

Genetic locus: TFPI (human) mapping to 2q32.1; Tfp1 (mouse) mapping to 2 D.

SOURCE

TFPI (G-5) is a mouse monoclonal antibody raised against amino acids 27-146 mapping near the N-terminus of TFPI of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TFPI (G-5) is available conjugated to agarose (sc-365920 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365920 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365920 PE), fluorescein (sc-365920 FITC), Alexa Fluor® 488 (sc-365920 AF488), Alexa Fluor® 546 (sc-365920 AF546), Alexa Fluor® 594 (sc-365920 AF594) or Alexa Fluor® 647 (sc-365920 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365920 AF680) or Alexa Fluor® 790 (sc-365920 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

TFPI (G-5) is recommended for detection of precursor and mature forms of TFPI of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

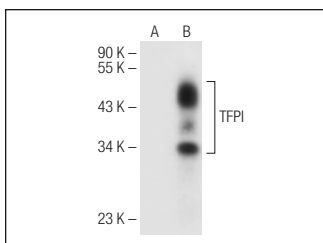
Suitable for use as control antibody for TFPI siRNA (h): sc-41060, TFPI siRNA (m): sc-41061, TFPI shRNA Plasmid (h): sc-41060-SH, TFPI shRNA Plasmid (m): sc-41061-SH, TFPI shRNA (h) Lentiviral Particles: sc-41060-V and TFPI shRNA (m) Lentiviral Particles: sc-41061-V.

Molecular Weight of TFPI: 40 kDa.

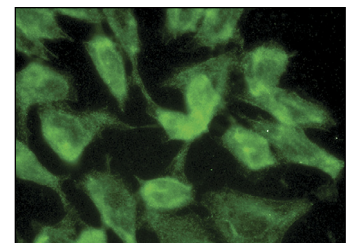
Positive Controls: TFPI (h): 293 Lysate: sc-113167.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA

TFPI (G-5): sc-365920. Western blot analysis of TFPI expression in non-transfected (A) and human TFPI transfected: sc-113167 (B) 293 whole cell lysates.



TFPI (G-5): sc-365920. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Xu, S., et al. 2018. BMSCs ameliorate septic coagulopathy by suppressing inflammation in cecal ligation and puncture-induced sepsis. *J. Cell Sci.* 131: jcs211151.
2. Morsy, M.D. 2020. Hemostatic effect of acylated ghrelin in control and sleeve gastrectomy-induced rats: mechanisms of action. *Arch. Physiol. Biochem.* 126: 31-40.

RESEARCH USE

For research use only, not for use in diagnostic procedures.