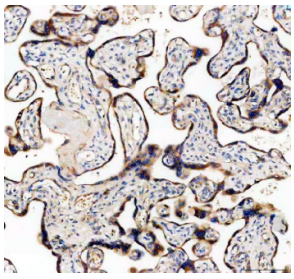
TFPI2 Antibody / Tissue factor pathway inhibitor 2 (R30353)

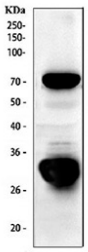
Catalog No.	Formulation	Size
R30353	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P48307
Localization	Cytoplasmic
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This TFPI2 antibody is available for research use only.



Immunohistochemical staining of FFPE human placental tissue with TFPI2 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis of TFPI2 in human placenta lysate. The TFPI2 antibody detects a strong band at approximately 27â€“30 kDa, consistent with the reported glycosylated forms of tissue factor pathway inhibitor 2 (TFPI2), together with a prominent band at approximately 70 kDa. Similar higher molecular weight TFPI2-reactive species have been described in extracellular matrix fractions and likely represent dimeric or matrix-associated forms of TFPI2 rather than non-specific background.

Description

TFPI2 antibody recognizes Tissue factor pathway inhibitor 2, a secreted serine protease inhibitor encoded by the TFPI2 gene. Also known as placental protein 5, this protein regulates extracellular matrix remodeling, coagulation balance, angiogenesis, and tissue integrity. The human TFPI2 gene is located on chromosome 7q22 and is expressed in endothelial cells, smooth muscle cells, fibroblasts, placenta, and several epithelial tissues. TFPI2 is synthesized as a preproprotein, processed through the secretory pathway, and ultimately localized to the extracellular matrix and cell surface where it co-localizes with matrix components such as fibronectin and collagen. It plays a critical role in modulating proteolytic activity by inhibiting plasmin, trypsin, plasma kallikrein, and selected matrix metalloproteinase activating enzymes.

Tissue factor pathway inhibitor 2 is structurally characterized by three Kunitz-type inhibitory domains that enable regulation of diverse serine proteases. Through these domains, TFPI2 participates in pathways that maintain vascular stability, prevent excessive extracellular matrix degradation, and regulate cell migration. In endothelial biology, TFPI2 contributes to vessel homeostasis by modulating tissue factor activity indirectly through protease inhibition. It supports anti-angiogenic processes and helps maintain controlled extracellular proteolysis during vascular remodeling and wound responses. In the placenta, TFPI2 is abundant during early development and is involved in regulating trophoblast invasion.

TFPI2 has gained significant interest due to its involvement in tumor biology. Many cancers, including colorectal, pancreatic, breast, and glioblastoma, exhibit reduced TFPI2 expression associated with promoter hypermethylation. Loss of TFPI2 promotes tumor invasion and metastasis by allowing uncontrolled extracellular matrix degradation. Conversely, increased TFPI2 expression can inhibit tumor cell migration and reduce invasive capacity through suppression of protease-driven remodeling. TFPI2 also participates in immune and inflammatory contexts, influencing leukocyte infiltration and tissue repair responses through modulation of proteolytic activity in the extracellular environment.

At the subcellular and extracellular level, TFPI2 localizes to the basement membrane, pericellular matrix, and cell surface regions where protease activity is tightly regulated. In endothelial cells, it partially co-localizes with von Willebrand factor containing compartments during secretion and becomes incorporated into extracellular matrix networks after release. Isoform diversity arising from alternative splicing may affect glycosylation patterns, extracellular stability, and interaction with matrix proteins. TFPI2 expression is regulated during embryonic development and increases in tissues undergoing active remodeling, such as during angiogenesis, wound repair, and growth plate differentiation.

This TFPI2 antibody is suitable for detecting Tissue factor pathway inhibitor 2 expression in research focused on vascular biology, extracellular matrix regulation, coagulation pathways, cancer invasion, developmental tissue remodeling, and endothelial function. NSJ Bioreagents offers this reagent for studies exploring protease inhibition, matrix dynamics, and tissue integrity across physiological and disease models.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the TFPI2 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the middle region of human TFPI2 (NVTRYYFNPRYRTCDAF) was used as the immunogen for this TFPI2 antibody.

Storage

After reconstitution, the TFPI2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.