

goat anti-human Tissue Factor (CD142) IgG

REF 4501

Description

For Research Use Only.

Tissue Factor (TF) is a 47,000 D transmembrane cell surface glycoprotein known for its role in initiating coagulation. It is comprised of three domains: an extracellular domain (aa 1-219), a hydrophilic spanning domain (aa 220-242) and a cytoplasmic tail (aa 243-263). Released into the blood stream following disruption of the endothelium, tissue factor functions as a receptor and cofactor for factors VII and VIIa. Contact between TF and blood is sufficient to initiate the extrinsic pathway of coagulation. This initiation requires the participation of a series of molecules; factor VII, factor X or factor IX, charged phospholipids and calcium ions, and their ability to complex with tissue factor. The TF/FVIIa complex efficiently activates both factor X and factor IX, thus initiating both the intrinsic and extrinsic coagulation pathways.

This high titer antibody reacts with purified apoprotein of tissue factor, neutralizing lipidated tissue factor along with native tissue factor (Thromboplastin) derived from human brain, as well as other sources of natural tissue factor (i.e. placenta acetone powder, tumor cells, LPS-stimulated monocytes).

REF 4501 has been shown to inhibit rat tissue factor in a clotting assay (see Reference 2 below) and reacts with rat tissue factor in Western blots. It also partially neutralizes rabbit thromboplastin and recognizes rabbit recombinant tissue factor.

Preparation

REF 4501 is a polyclonal antibody raised in goat where purified apoprotein of human tissue factor, $M_r = 47,000$ D, was used as the immunizing antigen. The antibody is purified from the goat sera via Protein G affinity chromatography.

Presentation

A clear glass, screw-capped vial containing 1.0 mg of purified IgG, lyophilized from a 1.0 mg/mL solution in 10 mM sodium phosphate, 140 mM sodium chloride, pH 7.4 with 100 mM mannitol added as an excipient.

Reconstitution

Add 1.0 mL of filtered deionized or sterile water to generate a 1.0 mg/mL stock solution.

Storage

Store lyophilized antibody at 2°–8°C. Aliquot and store reconstituted antibody at –20°C or colder.

Applications

- A. Western Blot Analysis:** Suitable for Western Blot procedures, a primary antibody concentration of 1-2 µg/mL is recommended (See Reference 1, 5).
- B. Immunoprecipitation** – REF 4501 may be useful for immunoprecipitation. A minimum 3:1 molar ratio of antibody:antigen is recommended.
- C. Inhibition of TF Procoagulant Activity** – REF 4501 inhibits tissue factor procoagulant activity, demonstrated in References 2 and 3.
- D. Immunohistochemistry** – REF 4501 at 33 µg/mL successfully stained frozen human cardiac tissue (See Reference 5).

Bibliography

1. Contrino, J, *et al.* *Circulation* 1997, **96**(2): 605-613.
2. Watanabe, T., *et al.* Angiogenesis Induced by Tissue Factor in Vitro and in vivo. *Thrombosis Research* 1999, **96**: 183-189.
3. Lwaleed, Bashir. A., *et al.* Functional and structural properties of urinary tissue factor. *Nephrology Dialysis Transplantation* 1999, **14**: 588-596.
4. Nakanishi, Kuniaki, *et al.* Tissue Factor is associated with the nonbacterial thrombotic endocarditis induced by a hypobaric hypoxic environment in rats. *Virchows Arch* 1998, **433**: 375-379.
5. Yamani, Mohammad. H., *et al.* *Circulation* 2002, **105**: 1955-1961.

Related Products

Tissue Factor, recombinant human - REF 4500
Relipidated Tissue Factor - REF 4500L/B
Monoclonal antibodies against human Tissue Factor
REF 4507CJ (FITC labeled)
REF 4508CJ (FITC labeled)
REF 4509 (mouse anti-human mAb)
IMUBIND® Tissue Factor ELISA - REF 845
ACTICHROME® TF (tissue factor activity assay) - REF 846

Definition of Symbols

	Consult instructions for use
	Manufacturer
	Refer to Safety Data Sheet
	Temperature Limitation
	Lot Number
	Expiration Date
	Catalog Number