

monoclonal antibody anti-human Tissue Factor IgG

REF 4503

Description

Tissue Factor (TF) is a 45 kDa 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.

Monocytes and macrophages stimulated by endotoxins, cytokines and lectins, upregulate their level of tissue factor and an increase in procoagulant activity (PCA) is found. TF is also found in lung, brain, trophoblastic microvilli, placenta and some neoplastic tissues (e.g. benign breast carcinomas and melanomas).⁷

REF 4503 has negligible effect on tissue factor procoagulant activity and its binding to human FVII. It demonstrates similar properties to clone TF9-10H10 (note Reference 6). At a concentration of 10 µg/mL it fails to inhibit the clotting of human plasma induced by purified human brain tissue factor and factor VII. The antibody reacts strongly with native, non-reduced and reduced, human and primate tissue factor in Western blot and dot blot analysis. Reactivity with tissue factor of other species has not been established.

Preparation

REF 4503 is a murine IgG₁ monoclonal antibody purified from ascites by Protein G affinity chromatography. Native human brain tissue factor, molecular weight of 47,000 Da, was used as the immunizing antigen.

Presentation

Screw-capped glass vial containing 0.5 mg of purified antibody lyophilized from a 0.5 mL solution of 0.15M Phosphate Buffered Saline, 100 mM Mannitol, pH 7.4.

Reconstitution

Add 0.5 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

For Research Use Only.

REF 4503 has demonstrated applicability in various laboratory experiments including Western blot,¹ flow cytometry,^{1,3} immunohistochemistry^{4,5} and immunoprecipitation.⁵ See the references listed for detailed protocols.

References

1. Sundell, I. B., *et al.* British Journal of Haematology 2001, **114**: 852-860.
2. López-Pedrerá, C., *et al.* American Journal of Haematology 1997, **56**: 71-78.
3. Sutherland, M. R., *et al.* Proceedings of the National Academy of Science 1997, **94**: 13510-13514.
4. Mulder, A. B., *et al.* Blood 1996, **88**(4): 1306-1313.
5. Moberg, L., *et al.* The Lancet 2002, **360**: 2038-2045.
6. Morrissey, J. H., *et al.* Thrombosis Research 1988; **52**: 247 - 261.
7. Drake, T. A., *et al.* Amer J Path 1989; **134**: 1087 - 1096.

Related Products

Monoclonal and polyclonal antibodies against human TF; REF 4508CJ (FITC conjugate), 4509, 4501 (goat anti-sera). Recombinant human TF; REF 4500 and 4500L/B (relipidated TF). Polyclonal antibody against mouse TF, REF 4515 (from rabbit anti-sera). IMUBIND® Tissue Factor ELISA, REF 845. Monoclonal antibody against human Factor VIIa, REF 2282 (inhibitor of Factor VIIa mediated coagulation in plasma).

Warnings and Precautions

For Research Use Only.

Definition of Symbols

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