COACHROM DIAGNOSTICA

Murine anti-human Tissue Factor (TF)

FITC-Conjugated IgG

0.1 mg

Product #: MATF-FITC
Lot #: XXXX
Expiry date: XXXX

Store at 2°C to 8°C

For Research Use Only.
Not for use in diagnostic procedures.

Description of Tissue Factor (TF)

Tissue Factor (TF) is an integral membrane glycoprotein expressed in the plasma membranes of many cell types. It is a single chain molecule of 44 kDa consisting of an extra-cellular domain (residues 1-219), a trans-membrane domain (residues 220-242) and the C-terminal intracellular domain of residues 243-263. Most abundant in the tissue adventitia, TF becomes exposed to blood at the site of vascular injury. The availability of TF is important in initiating coagulation by acting as a receptor for both the zymogen and protease forms of plasma factor VII (FVII and FVIIa), as well as mediating the conversion of bound FVII to FVIIa. The binding of FVII to TF in the presence of a negatively charged surface such as a phospholipid (or cell surface) promotes the auto activation of FVII by FVIIa. The TF-FVIIa complex in the presence of calcium ions proteolytically activates factors IX and X. These enzyme products are then capable of activating FVII to FVIIa by feedback amplification. The activity of TF-FVIIa activity is regulated by a TFPI (tissue factor pathway inhibitor), a member of the Kunin superfamily of protease inhibitors. TFPI contains three kunitz domains and is able to bind and inhibit the TF-FVIIa complex in the presence of activated factor X and calcium ions. Antithrombin has also been reported to inhibit FVIIa activity in the presence of TF and heparin. Although a membrane protein, low levels of TF products have been demonstrated in plasma. Increased levels of circulating TF products may be a risk factor for thrombotic disease [1-4].

REFERENCES and REVIEWS

1. Nemerson Y; in Hemostasis and Thrombosis, 3rd Edition, eds. RW Colman, J Hirsh, VJ Marder and EW Salzman, pp. 81-93, J.B. Lippincott Co., Philadelphia, 1994.

2. Neuenschwander PF, Morrissey JH; Deletion of the Membrane Anchoring Region of Tissue Factor Abolishes Autoactivation of F.VII but not Cofactor Function. JBC 267, pp 14477-14482, 1992.

3. Lawson LH, Butenas S, Mann KG; The Evaluation of Complex-dependent Alterations in Human Factor VIIa. JBC 267, pp 4834-4843, 1992.

4. Sambola A, Osende J, Hathcock J, Degen M, Nemerson Y, Fuster V, Crandall J, Badimon JJ; The Role of Risk Factors in the Modulation of Tissue Factor Activity and Blood Thrombogenicity. Circulation 107, pp 973-977, 2003.

Product Specifications

Description:
Vial containing XXXX ml of IgG conjugated to fluorescein isothiocyanate (FITC). Total protein is 0.1 mg.

Host/Isotype:
Murine, isotype IgG_{2a}.

Immunogen:
Recombinant human tissue factor.

Concentration:
IgG-FITC concentration is XXXX mg/mL, determined by absorbance using an extinction coefficient ($E^{1\%}_{280}$) of 14.

Incorporation of FITC:
XXXX moles fluorescein per mole IgG as determined spectrophotometrically.

Buffer:
Phosphate-buffered saline containing 1 mg/mL bovine albumin and 0.1% sodium azide (w/v), pH 7.4.

Storage:
Store at 2°C to 8°C and protect from light.

Specificity:
Prior to conjugation, this antibody was specific for tissue factor as demonstrated by ELISA.

Applications:
This reagent is suitable for flow cytometric analysis of tissue factor-expressing cells using 1 ug per 10^6 cells in 0.5 mL. Individual results may vary, reagent should be titrated to determine optimal concentration. An equivalent concentration of mouse IgG_{2a}-FITC should be used as an isotype control.

Profile of a Tissue Factor - expressing cell line analyzed on a FACSCalibur instrument (BD Biosciences, San Jose, CA)

Legend
MATF-FITC ——
Isotype control - - - -