***REPRESENTATIVE DATA SHEET ***

Sheep anti-human Tissue Factor (TF)

Peroxidase Conjugated IgG
0.2 mg

Product #: SATF-HRP
Lot #: XXXX
Expiry date: XXXX

Store at –10 to -20°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 (F.VII and F.VIIa), as well as mediating the conversion of bound F.VII to F.VIIa. The binding of F.VII to TF in the presence of a negatively charged surface such as a phospholipid (or cell surface) promotes the auto activation of F.VII by VIIa. The TF-F.VIIa complex in the presence of calcium ions proteolytically activates factors IX and X. These enzyme products are then capable of activating F.VII to F.VIIa by feedback amplification. The activity of TF-F.VIIa 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-F.VIIa complex in the presence of activated factor X and calcium ions. Antithrombin has also been reported to inhibit F.VIIa 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 whole IgG conjugated to horseradish peroxidase (HRP) through carbohydrate groups. Total protein is 0.2 mg.

Format:
IgG-HRP conjugate as a clear, slightly red-brown liquid.

Host Animal:
Sheep

Immunogen:
Recombinant human tissue factor.

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

Buffer:
A buffered stabilizer solution containing 50% (v/v) glycerol.

Storage:
Store between –10 and –20°C. Product will become viscous but will not freeze. Avoid storage in frost-free freezers. Keep vial tightly capped. Allow product to warm to room temperature and gently mix before use. Avoid exposure to sodium azide as this is an inhibitor of peroxidase activity.

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

Applications:
Suitable as a source of peroxidase-labeled antibodies to TF.

Rz Ratio (Reinheitszahl, A_{403}/A_{280}):
XXXX as determined spectrophotometrically.