PRODUCT INFORMATION

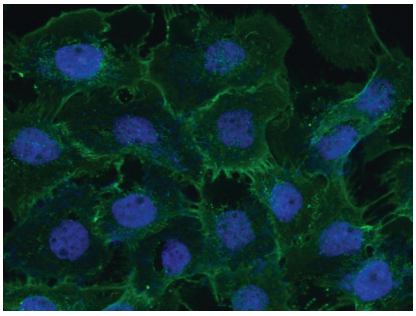
Tissue Factor/CD142 (human) Monoclonal Antibody

Item No. 43763

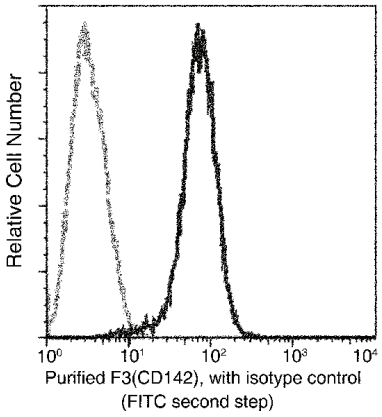
Overview and Properties

Contents:	This vial contains 100 µl of protein A purified monoclonal antibody.
Synonyms:	CD142, Cluster of Differentiation 142, Coagulation Factor III, TF, TFA, Tissue Thromboplastin
Immunogen:	Recombinant human TF
Cross Reactivity:	(+) Human
Species Reactivity:	(+) Human tissue factor; (-) HEK293 cell lysate
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	Monoclonal, Clone #05
Host:	Mouse
Isotype:	IgG2a
Applications:	ELISA, Flow Cytometry (FC), Immunocytochemistry (ICC), and Immunofluorescence (IF); the recommended starting dilution is 1:1,000-1:2,000 for ELISA, 1:25-1:100 for FC, and 1:20-1:100 for ICC and IF. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Immunofluorescence staining of human tissue factor/CD142 in A431 cells. Cells were fixed with 4% PFA, permeabilzed with 0.3% Triton X-100 in PBS, blocked with 10% serum, and incubated with Tissue Factor/CD142 (human) Monoclonal Antibody (1:60) at 4° overnight. Then cells were stained with the Alexa Fluor® 488-conjugated Goat Anti-mouse IgG secondary antibody (green) and counterstained with DAPI (blue). Positive staining was localized to cell membrane and cytoplasm.



Flow cytometric analysis of Tissue Factor/CD142 expression on A431 cells. Cells were stained with purified anti-Human Tissue Factor/CD142, then a FITC-conjugated second step antibody. The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of intact cells.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

Tissue factor (TF), also known as CD142, is a type I transmembrane single-chain glycoprotein and the primary activator of the exogenous coagulation pathway.[1,2] It is composed of an extracellular domain, which contains two fibronectin type III domains and interacts with factor VIIa (FVIIa), a transmembrane domain, and a cytoplasmic domain involved in signal transduction.[3] TF is expressed by perivascular cells, including pericytes, adventitial fibroblasts, and vascular smooth muscle cells (VSMCs) and localizes to the cell surface.[2] Vascular injury exposes pre-formed TF-FVIIa complexes to its substrates, FX and FIX, initiating coagulation.[2,3] TF levels and procoagulant activity are increased in atherosclerotic plaques isolated from patients with unstable coronary syndrome compared with those isolated from patients with stable coronary syndrome.[2] Overexpression of *F3*, the gene encoding TF, is positively correlated with tumor angiogenesis in advanced liver, breast, pancreatic, and lung cancers.[1] Cayman's Tissue Factor (human) Monoclonal Antibody can be used for ELISA, flow cytometry (FC), immunocytochemistry (ICC), and immunofluorescence (IF) applications.

References

1. Li, H., Yu, Y., Gao, L., *et al.* Tissue factor: A neglected role in cancer biology. *J. Thromb. Thrombolysis* **54(1)**, 97-108 (2022).
2. Grover, S.P. and Mackman, N. Tissue factor in atherosclerosis and atherothrombosis. *Atherosclerosis* **307**, 80-86 (2020).
3. Butenas, S. Tissue Factor Structure and Function. *Scientifica (Cairo)* 964862 (2012).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM