

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Thrombomodulin/BDCA-3 in ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 501733
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Thrombomodulin/BDCA-3 Ala19-Ser515 Accession # P07204(Val473)
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human peripheral blood mononuclear cells (PBMCs)

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Encoded by the THBD gene, Thrombomodulin is also known as blood dendritic cell antigen 3 (BDCA-3) and designated CD141. The deduced amino acid (aa) sequence of human THBD predicts a signal peptide (aa 1-18) and a mature chain (aa 19-575) that consists of following domains: C-type lectin (aa 31-169), EGF-like (aa 241-281, aa 284-324, aa 325-363, aa 365-405, aa 404-440, and aa 441-481), transmembrane (aa 516 to 539) and cytoplasmic (aa 540-575). The region used as an immunogen consists of aa 19-515, corresponding to the extracellular portion of the type I membrane protein. Predominantly synthesized by vascular endothelial cells, THBD inhibits coagulation and fibrinolysis (1-3). It functions as a cell surface receptor and an essential cofactor for active thrombin, which in turn activates protein C and thrombin-activatable fibrinolysis inhibitor (TAFI), also known as carboxypeptidase B2 (CPB2). Activated protein C (APC), facilitated by protein S, degrades coagulation factors Va and VIIIa, which are required for thrombin activation. Activated CPB2 cleaves basic C-terminal aa residues of its substrates, including fibrin, preventing the conversion of plasminogen to plasmin. In addition, THBD gene polymorphisms are associated with human disease and THBD plays a role in thrombosis, stroke, arteriosclerosis, and cancer (4). For example, increased serum levels of THBD, due to protease cleavage, have been associated with smoking, cardiac surgery, atherosclerosis, liver cirrhosis, diabetes mellitus, cerebral and myocardial infarction, and multiple sclerosis (5).

References:

1. Van de Wouwer, M. *et al.* (2004) *Arterioscler. Thromb. Vasc.* **24**:1374.
2. Wu, K.K. *et al.* (2000) *Ann. Med.* **32**:73.
3. Li, Y.H. *et al.* (2006) *Cardiovasc. Hematol. Agents Med. Chem.* **4**:183.
4. Weiler, H. and B.H. Isermann (2003) *J. Thromb. Haemost.* **1**:1515.
5. Califano, F. *et al.* (2000) *Eur. Rev. Med. Pharmacol. Sci.* **4**:59.

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