

## DESCRIPTION

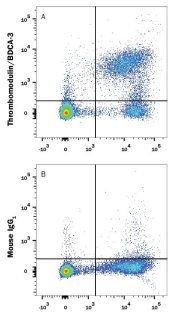
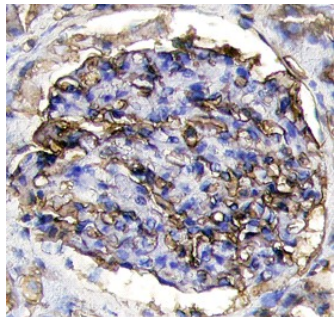
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Thrombomodulin/BDCA-3 in ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 501733
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Thrombomodulin/BDCA-3 Ala19-Ser515 Accession # P07204(Val473)
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

## 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
<b>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	See Below
<b>Immunohistochemistry</b>	8-25 µg/mL	See Below
<b>Human Thrombomodulin/BDCA-3 Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL	Human Thrombomodulin/BDCA-3 Antibody (Catalog # MAB3947)
<b>ELISA Detection</b>	0.5-2.0 µg/mL	Human Thrombomodulin/BDCA-3 Biotinylated Antibody (Catalog # BAM39471)
<b>Standard</b>		Recombinant Human Thrombomodulin/BDCA-3 (Catalog # 3947-PA)
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA

Flow Cytometry	Immunohistochemistry
 <p><b>Detection of Thrombomodulin/BDCA-3 in Human PBMCs by Flow Cytometry.</b> Human peripheral blood mononuclear cells (PBMCs) were stained with Mouse Anti-Human HLA-DR APC-conjugated Monoclonal Antibody (Catalog # FAB4869A) and either (A) Mouse Anti-Human Thrombomodulin/BDCA-3 Monoclonal Antibody (Catalog # MAB3947) or (B) Mouse IgG<sub>1</sub> Isotype Control (Catalog # MAB002) followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B). View our protocol for <a href="#">Staining Membrane-associated Proteins</a>.</p>	 <p><b>Thrombomodulin/BDCA-3 in Human Kidney.</b> Thrombomodulin/BDCA-3 was detected in immersion fixed paraffin-embedded sections of human kidney using 25 µg/mL Mouse Anti-Human Thrombomodulin/BDCA-3 Monoclonal Antibody (Catalog # MAB3947) overnight at 4 °C. Tissue was stained with the Anti-Mouse HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). View our protocol for <a href="#">Chromogenic IHC Staining of Paraffin-embedded Tissue Sections</a>.</p>

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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.