

## DESCRIPTION

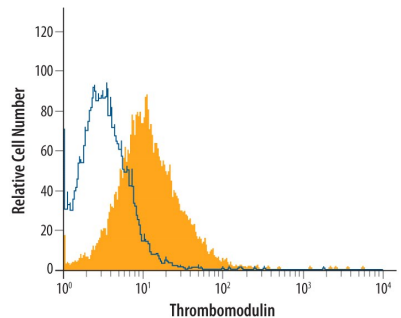
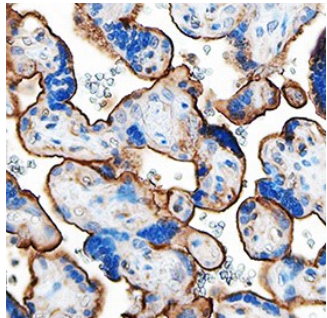
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Thrombomodulin in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse Thrombomodulin is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Thrombomodulin/BDCA-3 Ala19-Ser515 Accession # CAA29045
<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 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>Western Blot</b>	0.1 µg/mL	Recombinant Human Thrombomodulin/THBD/CD141 (Catalog # 3947-PA)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Immunoprecipitation</b>	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Thrombomodulin/BDCA-3 (Catalog # 3947-PA), <a href="#">see our available Western blot detection antibodies</a>
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA

<p><b>Flow Cytometry</b></p> 	<p><b>Detection of Thrombomodulin/BDCA-3 in THP-1 Human Cell Line by Flow Cytometry.</b> THP-1 human acute monocytic leukemia cell line was stained with Sheep Anti-Human Thrombomodulin/BDCA-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3947, filled histogram) or control antibody (Catalog # 5-001-A, open histogram), followed by Phycoerythrin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # F0107).</p>	<p><b>Immunohistochemistry</b></p>  <p><b>Thrombomodulin/BDCA-3 in Human Placenta.</b> Thrombomodulin/BDCA-3 was detected in immersion fixed paraffin-embedded sections of human placenta using Sheep Anti-Human Thrombomodulin/BDCA-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3947) at 3 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to plasma membranes of syncytiotrophoblasts. View our protocol for <a href="#">Chromogenic IHC Staining of Paraffin-embedded Tissue Sections</a>.</p>
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## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 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>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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 CD141 antigen. The deduced amino acid (aa) sequence of human THBD (Accession # P07204) 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 516-539) and cytoplasmic (aa 540-575). The R&D Systems rhTHBD 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.