

**DESCRIPTION**

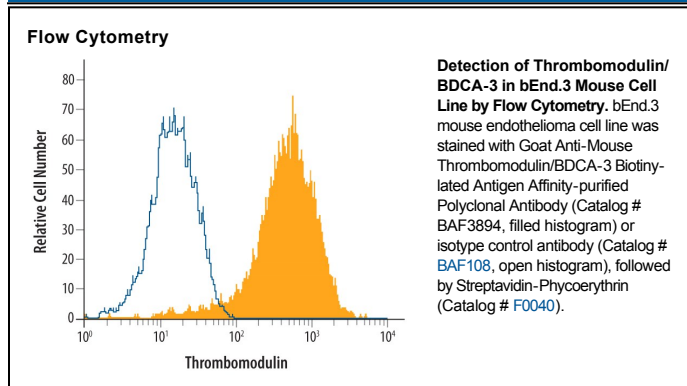
<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse Thrombomodulin/BDCA-3 in Western blots. In Western blots, less than 1% cross-reactivity with recombinant human Thrombomodulin is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse Thrombomodulin/BDCA-3 Leu17-Ser517 Accession # P15306
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Mouse Thrombomodulin/THBD/CD141 (Catalog # 3894-PA)
<b>Flow Cytometry</b>	0.25 µg/10 <sup>6</sup> cells	See Below

**DATA**



**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.
<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 sequence of mouse THBD predicts a signal peptide (aa 1 to 16) and a mature chain (aa 17 to 577) that consists of the following domains: C-type lectin (aa 31 to 167), EGF-like (aa 240 to 280, aa 283 to 323, aa 324 to 362, aa 364 to 404, aa 405 to 439, and aa 440 to 480), transmembrane (aa 518 to 541) and cytoplasmic (aa 542 to 577) (1). The R&D Systems recombinant mouse THBD consists of aa 17 to 517, corresponding to the extracellular portion of the type I membrane protein.

Predominantly synthesized by vascular endothelial cells, THBD inhibits coagulation and fibrinolysis (2-4). 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 amino acid 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 (5). 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 (6).

**References:**

1. Dittman, W.A. and P.W. Majerus (1989) *Nucleic Acids Res.* **17**:802.
2. Van de Wouwer, M. *et al.* (2004) *Arterioscler. Thromb. Vasc.* **24**:1374.
3. Wu, K.K. *et al.* (2000) *Ann Med.* **32**:73.
4. Li, Y.H. *et al.* (2006) *Cardiovasc. Hematol. Agents Med. Chem.* **4**:183.
5. Weiler, H. and B.H. Isermann (2003) *J. Thromb. Haemost.* **1**:1515.
6. Califano, F. *et al.* (2000) *Eur. Rev. Med. Pharmacol. Sci.* **4**:59.