

**MONOCLONAL ANTIBODY TO
HUMAN THROMBOMODULIN, CD141
clone RTM98**



Catalog nr	HM2147 (lot number and expiry date are indicated on the label)										
Description	<p>Monoclonal antibody RTM96 recognizes thrombomodulin (a C-type lectin also known as CD141), a complex molecule located on the endothelium and a key feature in the protein C pathway. The protein C anticoagulant pathway serves as a major system for controlling coagulation and limiting inflammatory responses, and potentially decreasing endothelial cell apoptosis in response to inflammatory cytokines and ischemia. The essential components of the pathway involve thrombin, thrombomodulin, the endothelial cell protein C receptor (EPCR), protein C and protein S. Thrombomodulin binds thrombin, directly inhibiting its clotting and cell activation potential while at the same time augmenting protein C. The endothelial cell protein C receptor (EPCR) augments protein C activation by the thrombin–TM complex more than 10-fold. TM also accelerates thrombin activation of a plasma procarboxypeptidase B, named thrombin activatable fibrinolysis inhibitor or TAFI resulting in slowing clot lysis. The inhibited thrombin rapidly dissociates from thrombomodulin, regenerating the anticoagulant surface. Thrombomodulin also has direct anti-inflammatory activity, minimizing cytokine formation in the endothelium and decreasing leukocyte-endothelial cell adhesion. Thrombomodulin inhibits leukocyte binding to activated endothelium. TM has been detected in a variety of cells and tissues in adults and during development, including astrocytes in the brain, keratinocytes, endothelial cells, mesothelial cells of the peritoneum, and circulating neutrophils, monocytes, and platelets. During fetal development, TM plays a central role in controlling the growth and survival of trophoblast cells in the placenta, a function essential for the maintenance of pregnancy. Thrombin binding to thrombomodulin involves anion binding exosite 1 on thrombin and epidermal growth factor (EGF) domains 4 to 6 on thrombomodulin The monoclonal antibody RTM98 reacts with the EGF6 domain.</p>										
Species	Rat IgG _{2a}										
Formulation	1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.02% sodium azide and 0.1% bovine serum albumin.										
Application	The monoclonal antibody RTM98 can be used for Western blotting and for flow cytometry. The antibody is not useful for inhibition of biological activity.										
Use	For flow cytometry and Western blotting dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine optimal dilutions. The typical starting working dilution is 1:10.										
Storage and stability	Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.										
Precautions	For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and Federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result with the use of or derivation of this product.										
References	<ol style="list-style-type: none">1. Domotor, E et al; Activated protein C alters cytosolic calcium flux in human brain endothelium via binding to endothelial protein C receptor and activation of protease activated receptor-1. <i>Blood</i> 2003, <i>101</i>: 47972. Sturn, D et al; Expression and function of the endothelial protein C receptor in human neutrophils. <i>Blood</i> 2003, <i>102</i>: 14993. Esmon, C. et al; The protein C pathway. <i>Chest</i> 2003, <i>124</i>: 26S4. Wouwer, M van de et al; Novel functions of thrombomodulin in inflammation. <i>Crit Care Med</i> 2004, <i>5</i>: 254.										
Also available	<table><tr><td>HM2145</td><td>Monoclonal antibody against Human EPCR, clone RCR-252</td></tr><tr><td>HM2146</td><td>Monoclonal antibody against Human Thrombomodulin (CD141), clone RTM96</td></tr><tr><td>HM2148</td><td>Monoclonal antibody against Human Protein S (PS), clone PS24</td></tr><tr><td>HM2150</td><td>Monoclonal antibody against Human Protein C (PC), clone PC98</td></tr><tr><td>HM2151</td><td>Monoclonal antibody against Human Activated Protein C (APC), clone PC107</td></tr></table>	HM2145	Monoclonal antibody against Human EPCR, clone RCR-252	HM2146	Monoclonal antibody against Human Thrombomodulin (CD141), clone RTM96	HM2148	Monoclonal antibody against Human Protein S (PS), clone PS24	HM2150	Monoclonal antibody against Human Protein C (PC), clone PC98	HM2151	Monoclonal antibody against Human Activated Protein C (APC), clone PC107
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