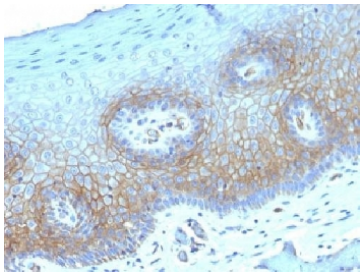
Thrombomodulin Antibody / Protein C Pathway Receptor [clone THBD/1782] (V3324)

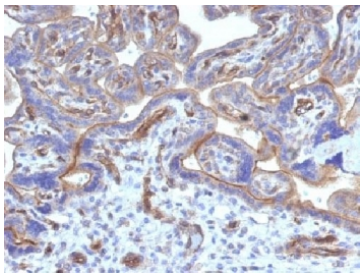
Catalog No.	Formulation	Size
V3324-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3324-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3324SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

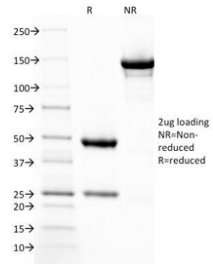
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	THBD/1782
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
UniProt	P07204
Localization	Cell surface, cytoplasmic
Applications	ELISA: 2-4ug/ml (order BSA/azide-free format) Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Thrombomodulin antibody is available for research use only.



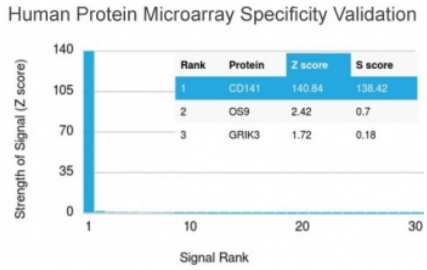
Thrombomodulin Antibody / Protein C Pathway Receptor. Immunohistochemistry analysis of Thrombomodulin / THBD expression in human cervical carcinoma using clone THBD/1782. FFPE tumor tissue shows membranous HRP-DAB brown staining in tumor epithelial cells with additional staining of endothelial cells lining vascular structures, consistent with the known localization of thrombomodulin as a protein C pathway receptor in vascular endothelium. Antigen retrieval was performed by boiling sections in 10mM Tris buffer with 1mM EDTA, pH 9, for 10-20 minutes followed by cooling at room temperature.



Thrombomodulin Antibody / Protein C Pathway Receptor. Immunohistochemistry analysis of Thrombomodulin / THBD expression in human placenta using clone THBD/1782. FFPE placental tissue shows membranous HRP-DAB brown staining along trophoblastic cell membranes and endothelial cells within placental vascular structures, consistent with the known localization of thrombomodulin as a protein C pathway receptor involved in thrombin-dependent anticoagulant signaling in vascular endothelium. Antigen retrieval was performed by boiling sections in 10mM Tris buffer with 1mM EDTA, pH 9, for 10-20 minutes followed by cooling at room temperature.



SDS-PAGE Analysis of Purified, BSA-Free Thrombomodulin Antibody (clone THBD/1782). Confirmation of Integrity and Purity of the Antibody.



Thrombomodulin Antibody / Protein C Pathway Receptor. Specificity validation of clone THBD/1782 using a HuProt(TM) human protein microarray containing more than 19,000 full-length human proteins. The antibody shows highly selective binding to Thrombomodulin / THBD (CD141), the protein C pathway receptor, with the strongest signal on the array and minimal cross-reactivity with other proteins, supporting the exceptional specificity of the THBD/1782 monoclonal antibody.
Z- and S-score interpretation: The Z-score represents the strength of the fluorescent signal produced when the antibody binds to a specific protein on the HuProt(TM) array and is expressed as the number of standard deviations above the mean signal intensity of all proteins on the array. Proteins are ranked according to descending Z-scores. The S-score represents the difference between consecutive Z-scores and therefore reflects the relative specificity of the antibody for its intended target compared with other proteins on the array.

Description

Thrombomodulin (THBD) is a vascular endothelial membrane glycoprotein that functions as a central receptor in the protein C anticoagulant pathway. This endothelial receptor binds thrombin and converts it from a procoagulant enzyme into a key activator of the protein C pathway, thereby regulating coagulation and maintaining vascular homeostasis. Because thrombomodulin serves as the initiating receptor of the protein C pathway, Thrombomodulin Antibody is widely used in studies investigating thrombin regulation, endothelial anticoagulant signaling, and vascular hemostatic balance. Detection of this protein C pathway receptor in tissue sections and cellular models provides insight into how endothelial cells control coagulation and inflammatory signaling within the vascular system.

Thrombomodulin antibody, also referred to as THBD antibody and protein C pathway receptor antibody in the literature, recognizes a transmembrane receptor that forms a high affinity complex with thrombin on the endothelial cell surface. The thrombin-thrombomodulin receptor complex represents the critical molecular switch that activates the protein C pathway. Once thrombin binds thrombomodulin, its enzymatic activity shifts away from fibrin generation and toward activation of protein C, producing activated protein C that suppresses further coagulation signaling. Through this mechanism thrombomodulin functions as the principal receptor responsible for initiating the anticoagulant protein C pathway in vascular endothelial cells.

The thrombomodulin receptor contains several functional domains that support its role in the protein C pathway. The extracellular region of thrombomodulin includes epidermal growth factor-like domains that enable thrombin binding and facilitate activation of protein C. Formation of the thrombin-thrombomodulin complex dramatically accelerates conversion of circulating protein C into activated protein C, which then inactivates clotting cofactors Va and VIIIa. This anticoagulant

signaling cascade represents one of the most important regulatory mechanisms preventing excessive clot formation while maintaining normal vascular function.

Because thrombomodulin acts as the endothelial receptor that initiates the protein C anticoagulant pathway, it is frequently studied in research focused on coagulation biology, vascular inflammation, and endothelial cell signaling. Alterations in thrombomodulin expression or function may influence thrombin activity, inflammatory signaling, and vascular stability. Investigating the distribution and regulation of this protein C pathway receptor therefore provides important insight into mechanisms controlling coagulation balance and endothelial homeostasis within the vascular system.

Clone THBD/1782 is a mouse monoclonal antibody designed to recognize thrombomodulin expression in research applications. This clone has demonstrated extremely clean specificity validation in large human protein microarray screening experiments, where selective binding to the intended THBD target was observed among thousands of human proteins. These results support the use of this Thrombomodulin Antibody for studies focused on the protein C pathway receptor responsible for thrombin-dependent activation of anticoagulant signaling in endothelial cells.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the Thrombomodulin Antibody / Protein C Pathway Receptor to be titered up or down for optimal performance.

Immunogen

Human recombinant partial protein corresponding to amino acids 69-194 was used as the immunogen for this Thrombomodulin antibody.

Storage

Store the Thrombomodulin antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Thrombomodulin antibody, Protein C pathway receptor antibody, Thrombin thrombomodulin receptor antibody, Anticoagulant receptor antibody, Thrombin cofactor receptor antibody

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