

# Active Native Rabbit Lung Thrombomodulin

**Cat. No.** THBD-306R    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

**Species**                      Rabbit

**Source**                        Endothelial Cell Membrane

### Description

Thrombomodulin (TM) is an integral membrane glycoprotein expressed on the surface of endothelial cells. Its discovery by Esmon and Owen has focused attention on the importance of the protein C anticoagulant pathway. TM serves as a cofactor for protein C activation by forming a 1:1 stoichiometric complex with thrombin ( $K_d=10^{-10}M$ ), which accelerates the rate of protein C activation by 1000-fold relative to the rate with thrombin alone. In addition to facilitating protein C activation, the binding of thrombin to TM drastically alters the procoagulant activity of thrombin. When bound to TM, thrombin no longer clots fibrinogen, activates factor V, inactivates protein S or triggers platelet aggregation. TM is a single chain protein composed of 5 distinct domains. The domain structure of TM is similar to the low density lipoprotein (LDL) receptor. A short cytoplasmic domain containing a free cysteine is located at the COOH-terminal end and is joined by a membrane spanning region to an O-glycosylation rich domain. The latter is followed by an epidermal growth factor (EGF) homology region and the NH<sub>2</sub>-terminal hydrophobic domain. The EGF homology region contains 6 EGF-like domains and contains the binding sites for both thrombin and protein C.

**Form**                            20 mM Tris, 150 mM NaCl, 0.05% PDOC, pH 7.4

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|                            |                                                                                                                                                                                                                          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bio-activity</b>        | Protein C activation assay                                                                                                                                                                                               |
| <b>Molecular Mass</b>      | 74000                                                                                                                                                                                                                    |
| <b>Purity</b>              | >95% by SDS-PAGE. NOT tissue/cell culture grade. Not tested for endotoxin.                                                                                                                                               |
| <b>Characteristic</b>      | Extinction coefficient:8.8, Isoelectric point:2.5, Structure:Single chain, NH2-terminal hydrophobic domain, six EGF domains, one O-glycosylation rich domain, one transmembrane domain, COOH-terminal cytoplasmic domain |
| <b>Storage</b>             | -80°C                                                                                                                                                                                                                    |
| <b>GENE INFORMATION</b>    |                                                                                                                                                                                                                          |
| <b>Gene Name</b>           | THBD thrombomodulin [ <i>Oryctolagus cuniculus</i> ]                                                                                                                                                                     |
| <b>Official Symbol</b>     | THBD                                                                                                                                                                                                                     |
| <b>Synonyms</b>            | thrombomodulin                                                                                                                                                                                                           |
| <b>Gene ID</b>             | 100008887                                                                                                                                                                                                                |
| <b>mRNA Refseq</b>         | NM_001082144                                                                                                                                                                                                             |
| <b>Protein Refseq</b>      | NP_001075613                                                                                                                                                                                                             |
| <b>Chromosome Location</b> | chromosome: 4                                                                                                                                                                                                            |

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