



## Recombinant Human Thrombomodulin

20180507BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

<b>Cat.-no.:</b>	<b>S01-062S</b>
<b>Size:</b>	2 µg
<b>Lot. No.:</b>	According to product label

## Scientific Background

<b>Gene-ID (NCBI):</b>	7056
<b>Synonyms:</b>	CD141, BDCA-3, THBD, TM

Thrombomodulin (TM, CD141, THBD) is an endothelial cell-expressed, transmembrane glycoprotein that can form a complex with the coagulation factor, thrombin. The thrombomodulin/thrombin complex converts protein C to its activated form, protein Ca, which in turn proteolytically cleaves and deactivates factor Va and factor VIIIa, two essential components of the coagulation mechanism. This inactivation reduces the generation of additional thrombin, and thereby effectively prevents continued coagulation. Reduced levels of thrombomodulin can correlate with the pathogenesis of certain cardiovascular diseases, such as atherosclerosis and thrombosis. However, the serum levels of the truncated circulating form of thrombomodulin are typically elevated during inflammation and in the presence of various inflammatory-related diseases. The thrombomodulin protein contains 575 amino acids, including an 18 a.a. signal sequence, a 497 a.a. extracellular domain, a 24 a.a. transmembrane sequence, and a 36 a.a. cytoplasmic region. Recombinant Human Thrombomodulin is a 51.4 kDa, 491-amino-acid length glycoprotein containing the extracellular domain of thrombomodulin.

## Sequence

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APAEPQPGGG QCVEHDCFAL YPGPATFLNA SQICDGLRGH LMTVRSSVAA
DVISLLNGD GVGRRRLWI GLQLPPGCGD PKRLGPLRGF QWVTGDNNTS
YSRWARLDLN GAPLCGPLCV AVSAAEATVP SEPIWEEQQC EVKADGFLCE
FHFPATCRPL AVEPGAAAAA VSITYGTPFA ARGADFPALP VGSSAAVAPL
GLQLMCTAPP GAVQGHWARE APGAWDCSVE NGGCEHACNA IPGAPRCQCP
AGAALQADGR SCTASATQSC NDLCEHFVCP NPDQPGSYS SCMETGYRLAA
DQHRCEVDVD CILEPSPCPQ RCVNTQGGFE CHCYPNYDLV DGECEVPVDP
CFRANCEYQC QPLNQTSYLC VCAEGFAPIP HEPHRCQMFC NQTACPADCD
PNTQASCECP EGYILDDGFI CTDIDECENG GFCSGVCHNL PGTFFECICGP
DSALARHIGT DCDSGKVDGG DSGSGEPPPS PTFGSTLTPP A

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## Database References

<b>Protein RefSeq:</b>	NP_000352.1
<b>Uniprot ID:</b>	P07204
<b>mRNA RefSeq:</b>	NM_000361

## Product Specifications

<b>Expressed in</b>	HEK293 cells
<b>Purity</b>	> 98% by SDS-PAGE & HPLC analyses
<b>Endotoxin level</b>	< 0.1 ng /µg of protein (<1EU/µg).
<b>Formulation</b>	Lyophilized (10 mM Sodium Phosphate, pH 7.5)
<b>Length (aa):</b>	491
<b>MW:</b>	51.4 kDa

**Stability:** The lyophilized protein is stable at room temperature for 1 month and at 4°C for 6 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 3 months at -20°C to -80°C.

**Reconstitution:** Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

**Biological Activity:** Measured by its ability to activate protein C induced cleavage of the chromogenic substrate, BOC-Asp-Pro Arg-AMC in the presence of thrombin. The specific activity is greater than 500 pmoles/min/ug.