# Data Sheet (Cat.No.TMPY-03271)

TargetMol

## Thrombomodulin Protein, Rat, Recombinant (His)

### General Information

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|---|---|
| Synonyms: | thrombomodulin |
| Protein Construction: | A DNA sequence encoding the rat THBD (O35370) (Met1-Ser517) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Ile 17 |
| Species: | Rat |
| Expression Host: | HEK293 Cells |
| Accession: | O35370 |
| Molecular Weight: | 55.2 kDa (predicted); 95 kDa (reducing condition, due to glycosylation) |

### QC Testing

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| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first. |
| Purity: | > 90 % as determined by SDS-PAGE |
| Endotoxin: | < 1.0 EU/μg of the protein as determined by the LAL method. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

### Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Thrombomodulin, also known as THBD (CD141), is an integral membrane protein that reduces blood coagulation by converting thrombin to an anticoagulant enzyme from a procoagulant enzyme. Thrombomodulin is expressed on the surface of endothelial cells and serves as a cofactor for thrombin. It is also expressed on human mesothelial cell, monocyte and a dendritic cell subset. Thrombomodulin functions as a cofactor in the thrombin-induced activation of protein C in the anticoagulant pathway by forming a 1:1 stoichiometric complex with

thrombin. Thrombomodulin also regulates C3b inactivation by factor I. Mutations in the thrombomodulin gene have also been reported to be associated with atypical hemolytic-uremic syndrome.

Reference

Dzionek A, et al. (2002) Plasmacytoid dendritic cells: from specific surface markers to specific cellular functions. Hum Immunol. 63(12):1133-48.

Dzionek A, et al. (2000) BDCA-2, BDCA-3, and BDCA-4: three markers for distinct subsets of dendritic cells in human peripheral blood. J Immunol. 165(11):6037-46.

Wen DZ, et al. (1987) Human thrombomodulin: complete cDNA sequence and chromosome localization of the gene. Biochemistry. 26(14):4350-7.



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