

## THSD1 Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	4833423O18Rik;thrombospondin type 1 domain containing 1;Tmtsp
Protein Construction:	A DNA sequence encoding the extracellular domain of mouse THSD1 (NP_062522.1) (Met 1-Asn 412) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Glu 25
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q9JM61
Molecular Weight:	45 kDa (predicted); 60-70 kDa (reducing condition, due to glycosylation)

### QC Testing

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:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m 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

Thrombospondin type-1 domain-containing protein 1, also known as transmembrane molecule with thrombospondin module, THSD1 and TMTSP, is a single-pass type I membrane protein that contains one TSP type-1 domain. THSD1 is a multi-domain, multi-functional glycoprotein synthesized by many cells. Matricellular THSD1 modulates cell adhesion and proliferation. It is involved in angiogenesis, inflammation, wound healing and cancer. In vitro, nanomolar concentrations of Thrombospondin-1 are required to alter endothelial and vascular

smooth muscle cell adhesion, proliferation, motility, and survival. As a major platelet protein, for a long time it was postulated to control hemostasis via platelet aggregate stabilization. THSD1 is a potent angiogenesis inhibitor, and down-regulation of THSD1 has been suggested to alter tumor growth by modulating angiogenesis in a variety of tumor types.

### Reference

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- Mirochnik Y, et al. (2008) Thrombospondin and apoptosis: molecular mechanisms and use for design of complementation treatments. *Curr Drug Targets.* 9(10): 851-62.
- Bonnefoy A, et al. (2008) The evolving role of thrombospondin-1 in hemostasis and vascular biology. *Cell Mol Life Sci.* 65(5): 713-27.
- Isenberg JS, et al. (2008) Thrombospondin-1: a physiological regulator of nitric oxide signaling. *Cell Mol Life Sci.* 65(5): 728-42.

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