



**LD Biopharma, Inc.**  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human THBS4 Protein  
**Catalog Number:** hRP-1105  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

The protein encoded by human thrombospondin 4 (THBS4) gene belongs to the thrombospondin protein family. Thrombospondin family members are adhesive glycoproteins that mediate cell-to-cell and cell-to-matrix interactions. This protein forms a pentamer and can bind to heparin and calcium. Studies of the rat counterpart suggest that this protein may be involved in local signaling in the developing and adult nervous system.

Full-length mature human THBS4 cDNA (27–961aa, derived from BC050456) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** THBS4 (TSP4)  
**Accession Number:** NP\_003239  
**Species:** Human  
**Size:** 20 µg / Vial  
**Composition:** 0.1 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References

Kim,D.S., et al., *Thrombospondin-4 contributes to spinal sensitization and neuropathic pain states*. J. Neurosci. 32 (26), 8977-8987 (2012)



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Forster,S., et al., *THBS4, a novel stromal molecule of diffuse-type gastric adenocarcinomas, identified by transcriptome-wide expression Profiling*. Mod. Pathol. 24 (10), 1390-1403 (2011)

Arber,S. et al., *Thrombospondin-4, an extracellular matrix protein expressed in the developing and adult nervous system promotes neurite outgrowth*. J. Cell Biol. 131 (4), 1083-1094 (1995)

## Applications

1. May be used for in vitro HTBS4 mediated neuronal cell differentiation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used for HTBS4 protein-protein interaction assay.
3. Potential diagnostic biomarker protein for gastric tumors.
4. As antigen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFTTPQVFDLLPSSSQRLNPGALLPVLTDPALNDLYVI  
STFKLQTKSSATIFGLYSSTDNSKYFEFTVMGRLNKA I LRYLKNDBGKVHLVVFNNLQLADGRRH  
RILLRLSNLQRGAGSLELYLDCIQVDSVHNLPRAFAGPSQKPETIELRTRFQRKPDQDFLEELKLV  
VRGSLFQVASLQDCFLQQSEPLAATGTGDFNRQFLGQMTQLNQLLGEVKDLLRQQVKETSFLRN  
TIAECQACGPLKFQSPSTVVPAPPAPTRPRRCDNSPCFRGVQCTDSRDGFQCGPCPEGY  
TGNGITCIDVDECKYHPCYPGVHCINLSPGFRCDACPVGFTGPMVQGVGISFAKSNKQVCTDID  
ECRNGACVPNSICVNTLGSYRCGPCKPGYTGdqIRGCKAERNCRNPELNPCSVNAQCIEERQGD  
VTCVCGVGWAGDGYICGKDVIDSYDEELPCSARNCKKDNCYVPNSGQEDADRDGIGDACDE  
DADGDGILNEQDNCVLIHNVDQRNSDKDIFGDACDNCLSVLNNDQKDTDGDGRGDACDDMDGD  
GIKNILDNCPKFPNRDQRDKDGDGVGDACDSCPdVSNPNQSDVDNDLVGDSCTNQDSGDGHQ  
DSTDNCPTVINSAQLDtdKdGIGDECDdddNDGIPDLVPPGPDNCRlVPNPAQEDSnsdGVGD  
ICESDFDQDQVIDRIDVCPENAEVTLTDFRAYQTVVLDPEGDAQIDPNWVVLNQGMEIVQTMNS  
DPGLAVGYTAFNGVDFEGTFHVNTQTDDDYAGFIFGYQDSSSFYVVMWKQTEQTYWQATPFRAV  
AEPGIQLKAVKSKTGPGEHLRNSLWHTGDTSDQVRLlWKDSRNvGWKDKVSYRWFLQHRPQVGY  
IRVRFYEGSELVADSGVTIDTTMRGGRLGVFCFSQENI IWSNLKYRCNDTIPEDFQEFQTONFD  
RFDN