

THBS1 Protein, Human (HEK293, His)

Cat. No.:	HY-P70725
Synonyms:	Thrombospondin-1; THBS1; TSP; TSP1
Species:	Human
Source:	HEK293
Accession:	P07996 (N19-P1170)
Gene ID:	7057
Molecular Weight:	130&180 kDa

PROPERTIES

AA Sequence

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NRIPESGGDN   SVFDIFELTG   AARKGSGRRL   VKGPDPSSPA
FRIEDANLIP   PVPDDKFQDL   VDAVRAEKGF   LLLASLRQMK
KTRGTLLEALE  RKDHSGQVFS   VVSNKGAGTL   DLSLTVQGKQ
HVVSVEEALL   ATGQWKSITL   FVQEDRAQLY   IDCEKMENAE
LDVPIQSVFT   RDLASIARLR   IAKGGVNDNF   QGVLQNVRFV
FGTTPEDILR   NKGCSSTSV   LLTLDNNVVN   GSSPAIRTNY
IGHKTKDLQA   ICGISCDELS   SMVLELRGLR   TIVTTLQDSI
RKVTEENKEL   ANELRRPPLC   YHNGVQYRNN   EEWTVDSCTE
CHCQNSVTIC   KKVSCPIMPC   SNATVPDGEC   CPRCWPSSDA
DDGWSPWSEW   TSCSTSCGNG   IQQRGRSCDS   LNNRCEGSSV
QTRTCHIQC   DKRFKQDGGW   SHWSPWSSCS   VTCGDGVI TR
IRLCNSPSPQ   MNGKPCGEA   RETKACKKDA   CPINGGWGPW
SPWDICSVTC   GGGVQKRSRL   CNNPTPQFGG   KDCVGDVTEN
QICNKQDCPI   DGCLSNPCFA   GVKCTSPDG   SWKCGACPPG
YSGNGIQCTD   VDECKEVPDA   CFNHNGEHRC   ENTDPGYNCL
PCPPRFTGSQ   PFGQGEHAT   ANKQVCKPRN   PCTDGTDCN
KNAKCNYLGH   YSDPMYRCEC   KPGYAGNGII   CGEDTDLDGW
PNENLVCVAN   ATYHCKKDNC   PNLPSGQED   YDKDGI GDAC
DDDDNDKIP   DDRDNC PFHY   NPAQYDYDRD   DVGDRCDNCP
YNHNPDQADT   DNNGEGDACA   ADIDGDGILN   ERDNCQYVYN
VDQRDTDMDG   VGDQCDNCPL   EHNPDLDS   SDRIGDTCDN
NQDIDEDGHQ   NNLDNCPYVP   NANQADHDKD   GKGDACDHDD
DNDGIPDDKD   NCRLVNPDPQ   KDSGDGGRGD   ACKDDFDHDS
VPDIDDICPE   NVDISETDFR   RFQMIP LDPK   GTSQNDPNWV
VRHQGKELVQ   TVNCDPGLAV   GYDEFNAVDF   SGTFFINTER
DDDYAGFVFG   YQSSSRFYVV   MWKQVTQSYW   DTNPTRAQGY
SGLSVKVVNS   TTGPGELRN   ALWHTGNTPG   QVRTLWHDPR
HIGWKDFTAY   RWRLSHRPKT   GFIRVVMYEG   KKIMADSGPI
YDKTYAGGRL   GLFVFSQEMV   FFSDLKYE CR   DP
  
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Appearance

Lyophilized powder.

Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 8% Trehalose, 4% Mannitol, 200 mM NaCl, 0.02% Tween80, pH 6.5.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

THBS1 Protein, an adhesive glycoprotein, orchestrates a myriad of cellular processes through its mediation of both cell-to-cell and cell-to-matrix interactions. With a multifunctional role, it is intricately involved in inflammation, angiogenesis, wound healing, reactive oxygen species (ROS) and nitrous oxide (NO) signaling, apoptosis, senescence, aging, cellular self-renewal, stemness, and the maintenance of cardiovascular and metabolic homeostasis. This versatile protein negatively modulates dendritic cell activation and cytokine release, contributing to inflammation resolution and immune homeostasis. Acting as a ligand for receptors CD47 and CD36, THBS1 plays a pivotal role in modulating nitrous oxide (NO) signaling and blood pressure regulation. Additionally, it influences endothelial cell senescence by activating NADPH oxidase NOX1 and contributes to excess ROS production. THBS1 further inhibits stem cell self-renewal, regulates wound healing, induces apoptosis in podocytes, and suppresses angiogenesis through its interactions with CD47 and CD36. The protein's involvement in various cellular processes underscores its significance in physiological and pathological conditions, ranging from metabolic dysfunction in obesity to the ER stress response. As a homotrimer with disulfide linkages, THBS1 exhibits binding affinity for various extracellular matrix components and integrins, emphasizing its pivotal role in cellular interactions and signaling pathways.

Caution: Product has not been fully validated for medical applications. For research use only.

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