

TGF beta 1 Protein, Human (C33S, HEK293, His)

Cat. No.:	HY-P78668
Synonyms:	LAP (TGF-beta 1); LAP (TGFB1); TGFB1; CED; DPD1; LAP; TGF-beta-1; TGFB
Species:	Human
Source:	HEK293
Accession:	P01137/NP_000651.3 (L30-R278, C33S)
Gene ID:	7040
Molecular Weight:	37-44 kDa

PROPERTIES

AA Sequence	<pre> L S T S K T I D M E L V K R K R I E A I R G Q I L S K L R L A S P P S Q G E V P P G P L P E A V L A L Y N S T R D R V A G E S A E P E P E P E A D Y Y A K E V T R V L M V E T H N E I Y D K F K Q S T H S I Y M F F N T S E L R E A V P E P V L L S R A E L R L L R L K L K V E Q H V E L Y Q K Y S N N S W R Y L S N R L L A P S D S P E W L S F D V T G V V R Q W L S R G G E I E G F R L S A H C S C D S R D N T L Q V D I N G F T T G R R G D L A T I H G M N R P F L L L M A T P L E R A Q H L Q S S R H R R </pre>
Biological Activity	Measured by its ability to inhibit proliferation of HT-2 mouse T cells. The ED ₅₀ for this effect is 0.1120 ng/mL, corresponding to a specific activity is 8.929×10 ⁶ units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized a 0.22 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
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	TGF beta 1 Protein, the product of this gene, encodes a secreted ligand belonging to the TGF-beta superfamily, known for its role in regulating various cellular processes. As a ligand, it binds to different TGF-beta receptors, initiating the recruitment
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and activation of SMAD family transcription factors that govern gene expression. The encoded preproprotein undergoes proteolytic processing, yielding a latency-associated peptide (LAP) and a mature peptide. It exists in either a latent form, comprising a mature peptide homodimer, a LAP homodimer, and a latent TGF-beta binding protein, or in an active form consisting solely of the mature peptide homodimer. This protein, which can form heterodimers with other TGFB family members, plays a pivotal role in regulating cell proliferation, differentiation, and growth. Additionally, it has the capacity to modulate the expression and activation of other growth factors, including interferon gamma and tumor necrosis factor alpha. Frequently upregulated in tumor cells, mutations in this gene lead to Camurati-Engelmann disease. Its expression is broadly observed in various tissues, with prominent levels in the spleen (RPKM 38.0), bone marrow (RPKM 32.1), and 23 other tissues, highlighting its widespread involvement in physiological processes.

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

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