

Animal-Free TGF beta 1/TGFB1 Protein, Human (His)

Cat. No.:	HY-P700150AF
Synonyms:	Transforming Growth Factor beta-1; TGF-beta-1; Latency-Associated Peptide; LAP; TGFB1; TGFB; TGF-β1; TGF beta1; TGFbeta 1; TGF-beta 1; TGFbeta; TGF-beta-1
Species:	Human
Source:	E. coli
Accession:	P01137 (A279-S390)
Gene ID:	7040
Molecular Weight:	Approximately 13.7 kDa

PROPERTIES

AA Sequence	<p> M A L D T N Y C F S S T E K N C C V R Q L Y I D F R K D L G W K W I H E P K G Y H A N F C L G P C P Y I W S L D T Q Y S K V L A L Y N Q H N P G A S A A P C C V P Q A L E P L P I V Y Y V G R K P K V E Q L S N M I V R S C K C S </p>
Biological Activity	<p>1.Measure by its ability to inhibit the IL-4 dependent proliferation in HT-2 cells. The ED₅₀ for this effect is <0.1 ng/mL. The specific activity of recombinant human TGF beta 1 is approximately >5 x 10⁷ IU/mg.</p> <p>2.Measure by its ability to induce proliferation in MCF-7 cells The ED₅₀ for this effect is <3.2 ng/mL.</p>
Appearance	Lyophilized powder
Formulation	Lyophilized from a solution containing 1X PBS, pH 8.0 or 20 mM sodium citrate and 0.2 M NaCl, pH 4.5, trehalose.
Endotoxin Level	<0.1 EU per 1 µg of the protein by the LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in 10 mM HCl. 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	<p>Transforming growth factor (TGF) beta 1 is a polypeptide member of the transforming growth factor beta superfamily of cytokines. TGF beta 1 is a secreted protein that performs many cellular functions, including the control of cell growth, cell proliferation, cell differentiation, apoptosis, and can regulate the expression and activation of other growth factors, including interferon gamma and tumor necrosis factor alpha. In humans, TGF-β1 is encoded by the TGFB1 gene. TGF beta 1 activates CREB3L1 by regulating intramembranous proteolysis, stimulating sustained collagen production. TGF beta 1</p>
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mediates SMAD2/3 activation by inducing SMAD2/3 phosphorylation and subsequent translocation to the nucleus and regulates dental papilla cells by promoting IPO7-mediated translocation of phosphorylated SMAD2 to the nucleus and subsequent transcription of target genes. TGF beta 1 induces epithelial-to-mesenchymal transition (EMT) and cell migration in various cell types. TGF beta 1 plays an important role in controlling the immune system, and shows different activities on different types of cell, or cells at different developmental stages^{[1][2][3][4][5][6]}.

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

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