

TGF beta 1/TGFB1 Protein, Human (HEK293, Avi)

Cat. No.:	HY-P71056
Synonyms:	Transforming Growth Factor Beta-1; TGF-Beta-1; Latency-Associated Peptide; LAP; TGFB1; TGFB
Species:	Human
Source:	HEK293
Accession:	P01137 (A279-S390)
Gene ID:	7040
Molecular Weight:	14-18 kDa & 27 kDa

PROPERTIES

AA Sequence	<p>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</p> <p>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</p> <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	Measured by its ability to inhibit TGF-beta 1 activity on TF α 1 human erythroleukemic cells. The ED ₅₀ for this effect is 22.36-137.37 pg/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of 50 mM Glycine-HCl, 150 mM NaCl, pH 2.5.
Endotoxin Level	<0.01 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/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. 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>TGF beta 1/TGFB1 Protein (transforming growth factor beta 1) is a multifunctional cytokine, which is synthesized by almost all cells. TGF beta 1/TGFB1 Protein has a high ability to bind with TGFβRII^[3].</p> <p>The sequence of amino acids in TGFβ1 proteins from different species is very stable, which leads to the conclusion that in the process of evolution, TGFβ has been only slightly altered, and that both in humans and in animals, its function is similar. TGF beta 1/TGFB1 Protein is secreted as an inactive peptide, forming part of a 'latent complex' consisting of a mature TGFB1 dimer non-covalently bound to its latency-associated peptide (LAP) and, via LAP, to latent TGFβ-binding</p>
-------------------	---

proteins (LTBPs). Activated TGF beta 1/TGFB1 Protein binds to ubiquitously expressed cell-surface TGFB1 type I receptors (TGFBRI) and type II receptors (TGFBRII), which are transmembrane serine/threonine kinases^[4]. TGF beta 1/TGFB1 Protein regulates cell proliferation, growth, differentiation and cells movement. TGFb1 has immunomodulatory effects. TGF beta 1/TGFB1 Protein has profibrogenic effects. TGF beta 1/TGFB1 Protein action can be local and systemic. TGF beta 1/TGFB1 Protein plays a driving role in development, fibrosis and cancer^[4].

REFERENCES

- [1]. K. Miyazono, et al. A role of the latent TGF-beta 1-binding protein in the assembly and secretion of TGF-beta 1. *The EMBO Journal* (1991)10:1091-1101.
- [2]. M Selvakumaran, et al. The novel primary response gene MyD118 and the proto-oncogenes myb, myc, and bcl-2 modulate transforming growth factor beta 1-induced apoptosis of myeloid leukemia cells. *Mol Cell Biol*. 1994 Apr;14(4):2352-60.
- [3]. Chambaz E.M., et al. Transforming Growth Factor-βs: A Multifunctional Cytokine Family. Implication in the Regulation of Adrenocortical Cell Endocrine Functions. 1991.
- [4]. Dulce Maroni, et al. TGFB1 disrupts the angiogenic potential of microvascular endothelial cells of the corpus luteum. *Cell Sci*. 2011 Jul 15;124(Pt 14):2501-10.
- [5]. Nan Wu, et al. LINC00941 promotes CRC metastasis through preventing SMAD4 protein degradation and activating the TGF-β/SMAD2/3 signaling pathway. *Cell Death Differ*. 2021 Jan;28(1):219-232.
- [6]. Hai Zhang, et al. Effects of transforming growth factor-beta 1 (TGF-beta1) on in vitro mineralization of human osteoblasts on implant materials. *Biomaterials*. 2003 May;24(12):2013-20.
- [7]. Paloma B Liton, et al. Cross-talk between TGF-beta1 and IL-6 in human trabecular meshwork cells. *Mol Vis*. 2009;15:326-34. Epub 2009 Feb 11.
-

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA