

## TGF beta 1/TGFB1 Protein, Human (278a.a, HEK293, His)

Cat. No.:	HY-P73616
Synonyms:	Transforming growth factor beta-1 proprotein; LAP; TGF-beta-1; TGFB1
Species:	Human
Source:	HEK293
Accession:	P01137 (L30-R278, C33S)
Gene ID:	7040
Molecular Weight:	Approximately 40-57 kDa due to the glycosylation.

### PROPERTIES

AA Sequence	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
Biological Activity	Measured by its ability to inhibit proliferation of HT-2 mouse T cells. The ED <sub>50</sub> this effect is ≤0.04393 µg/mL, corresponding to a specific activity is ≥2.276×10 <sup>4</sup> units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4 or 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 <sub>2</sub> 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	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
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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- $\beta$ 1 is encoded by the TGFB1 gene. TGF beta 1 activates CREB3L1 by regulating intramembranous proteolysis, stimulating sustained collagen production. TGF beta 1 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<sup>[1][2][3][4][5][6]</sup>.

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

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