

TGF beta 1/TGFB1 Protein, Rat/Mouse (HEK293)

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| Cat. No.: | HY-P7117 |
| Synonyms: | rMuTGF-beta 1/TGFB1; Transforming growth factor beta-1; TGF-β1; LAP |
| Species: | Mouse;Rat |
| Source: | HEK293 |
| Accession: | P04202/P17246 (A279-S390) |
| Gene ID: | 21803/59086 |
| Molecular Weight: | 11-13 kDa |

PROPERTIES

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| AA Sequence | 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 S 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 |
| Biological Activity | 1. Measured by its ability to inhibit IL-4-dependent proliferation of TF-1 human erythroleukemic cells and the ED ₅₀ is 5-25 pg/mL. 2. Measured by its ability to inhibit cell proliferation of Mv-1-lu mink lung epithelial cells. The ED ₅₀ for this effect is <0.8 ng/mL. |
| Appearance | Lyophilized powder |
| Formulation | Lyophilized after extensive dialysis against 4 mM HCl. |
| 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

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| 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</p> |
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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 TGFB-binding 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

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- [2]. Justin Rustenhoven, et al. TGF-beta1 regulates human brain pericyte inflammatory processes involved in neurovasculature function. *Justin Rustenhoven.* 2016 Feb 11;13:37.
- [3]. Kai Zhang, et al. Essential role of microglial transforming growth factor- β 1 in antidepressant actions of (R)-ketamine and the novel antidepressant TGF- β 1. *Transl Psychiatry.* 2020 Jan 27;10(1):32.
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- [6]. Chambaz E.M., et al. Transforming Growth Factor- β s: A Multifunctional Cytokine Family. Implication in the Regulation of Adrenocortical Cell Endocrine Functions. 1991.

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