Recombinant Mature Human Transforming Growth Factor beta-1 (rhTGF- β1)
Catalog Numbers: 2001-1, 2001-2, 2001-5, 2001-10

Produced and purified from Serum Free/ Animal Free media

Product Description

Name: Recombinant Mature Human TGF-beta1 (rhTGF- β1)

Synonyms: Transforming Growth Factor-β1, Differentiation inhibiting factor, Cartilage-inducing factor

Species: Human

Source: HEK 293 cells

Amino acids: 279 to 390

Predicted Molecular Weight: 12.79 kDa

ProteinID: P01137 (TGFB1_HUMAN)

Sequence:
ALDTNYCFSSTEKNCCVRQLYIDFRKDLGWKWIHEPKGYHANFCLGPCPYIWSLDTQYSKVLALYNQHNPGASAAPCCVPQALEPLPIVYY VGRKPKVEQLSNMIVRSCKCS*

**Recombinant proteins are expressed from synthetic genes. DAPCEL Inc. synthetic gene design technology provides highest protein quality in terms of protein folding and bioactivity.*

Product specifications

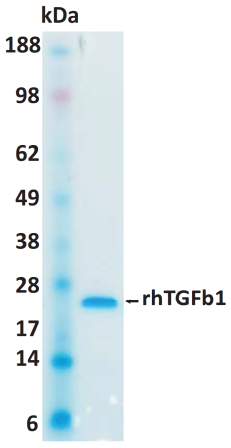
Estimated Molecular Weight, SDS-PAGE: 14 kDa, under reducing and 25 kDa under nonreducing conditions (shown below).

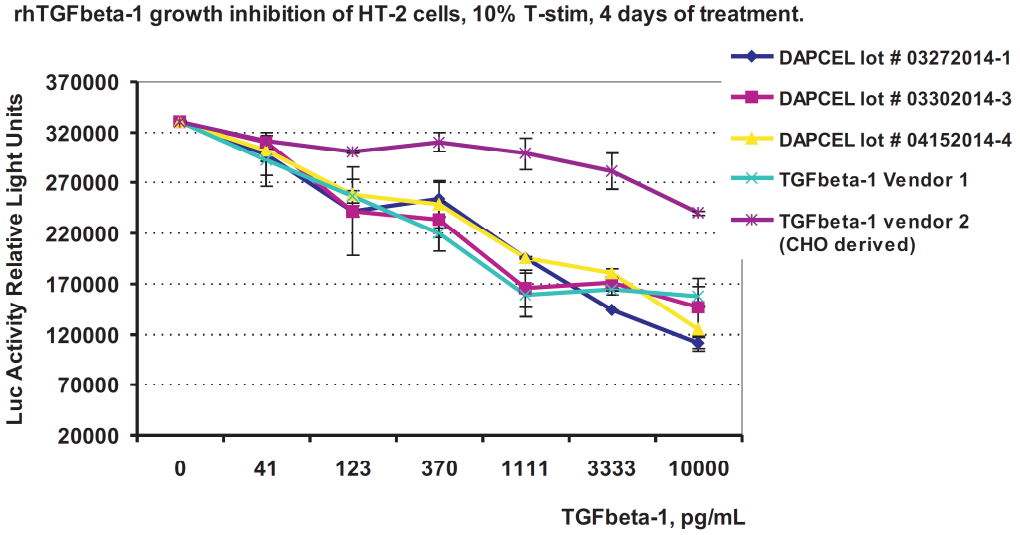
Grade & Purity: >97%, (according to SDS-PAGE stained with SimplyBlue SafeStain, (Invitrogen)).

Endotoxins: Less than 0.1 ng/µg (1 IEU/µg), as measured by LAL method.

Bioactivity: tested in HT-2 cell growth inhibition assay (see below).

Formulation: Dried from 0.2 µm filtered solution of 20 mM Citric Acid





Shipping

Product is shipped at ambient temperature. Upon receipt, store at temperatures recommended below.

Product application and Storage

Reconstitution: Spin before opening. For optimal recovery - reconstitute in sterile water at ~0.1 mg/mL at room temperature; after adding water, re-cap the vial and tap gently, ensure to cover all the surfaces inside the vial. Do not mix by vortexing or by extensive pipetting. Let the vial to sit at room temperature with gentle agitation for at least 10-15 minutes before aliquoting or using.

Storage: To avoid loss of the protein, store the reconstituted protein in aliquots (no smaller than 10 µL) in polypropylene or siliconized tubes. Store dried and reconstituted protein at -20 and/or -80°C. Avoid repeated freeze-thaw cycles.

Stability:

12 months from date of receipt, stored at -20 to -80 °C as supplied.

6 months, -20 to -70 °C under sterile conditions after reconstitution in water.

1 month, 2 to 8 °C under sterile conditions after reconstitution in water.

Application Note: *For research purposes only. Not for use in humans.*

Transforming growth factor beta-1 background information:

Transforming growth factor beta-1 (TGF-beta1) is a part of the TGFB family of cytokines. It is naturally processed from 390 amino acid pre-pro polypeptide containing the so-called latency-associated peptide (LAP; aa 30-278). The protein is secreted and stored in the extracellular matrix as inactive complex, containing the TGF-β1 homodimer, LAP and the latent TGF-β1 binding protein-1 (LTBP1). Dissociation of the TGF-beta1 from LAP is required for growth factor activation and biological activity (1).

TGF-beta1 controls cellular proliferation and differentiation as well as many other functions in different cell types. It has been shown to be also implicated in the immune response (2) and the development of cancer (3), cardiovascular disease (4), diabetes (5), Marfan (6) and Loeys–Dietz (7) syndromes, Parkinson's disease (8) and acquired immunodeficiency syndrome (9).

1. Munger et al. (1997) *Kidney Int*, 1376-1382.
2. Yoshimura et al. (2010) *J. Biochem,* 781-792.
3. Elliott et al. (2005) *J. Clinical Oncology*, 2078-2093.
4. Bujak et al. (2006) *Cardiovascular Res,* 184-195.
5. Goldfarb et al. (2001) *Trans Am Clin Climatol Assoc,* 27-32.
6. Benke et al. (2013) *Cardiol J*, 227-234.
7. Loeys et al. (2006) *N Engl J Med,* 788-798.
8. Mogi et al. (1998) *Neurosci Lett*, 129-132.
9. Li et al. (1998) *Mol Cell Biol*, 110-121.