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PA161 Recombinant Human TGF-beta-1 (TGFB1) - Purified

Alternate names: TGF-beta-1, TGFB, Transforming growth factor beta-1

Quantity: 10 µg

Background: The three mammalian isoforms of TGF-β, TGF-β1, β2, β3, signal through the same receptor and elicit similar biological responses. They are multifunctional cytokines that regulate cell proliferation, growth, differentiation and motility as well as synthesis and deposition of the extracellular matrix. They are involved in various physiological processes including embryogenesis, tissue remodeling and wound healing. They are secreted predominantly as latent complexes which are stored at the cell surface and in the extracellular matrix. The release of biologically active TGF-β isoform from a latent complex involves proteolytic processing of the complex and /or induction of conformational changes by proteins such as thrombospondin-1. TGF-β1 is the most abundant isoform secreted by almost every cell type. It was originally identified for its ability to induce phenotypic transformation of fibroblasts and recently it has been implicated in the formation of skin tumors.

Uniprot ID: P01137

NCBI: NP_000651.3

GeneID: 7040

Species: Human

Source: CHO cells, made using a license from PHS, NIH, Patent Pending

Format:
State: Lyophilized (0.2µ sterile filtered) purified protein without additives
Purity: >98% pure by SDS-PAGE gel and HPLC analyses
Endotoxin Level: < 0.1 ng per µg (1 EU/µg)
Reconstitution: Centrifuge the vial prior to opening and restore in water to a concentration of 0.1-1.0 mg/ml.
Do not vortex.

Description: Recombinant Human TGF-beta-1 is a 25.0 kDa protein composed of two identical 112 amino acid polypeptide chains linked by a single disulfide bond.
AA Sequence:
ALDTNYCFSS TEKNCCVRQL YIDFRKDLGW KWIHEPKGYH ANFCLGPCPY IWSLDTQYSK VLALYNQHNP GASAAPCCVP QALEPLPIVY YVGRKPKVEQ LSNMIVRSCK CS
Biological Activity: The ED_{50} as determined by TGF-beta-1's ability to inhibit the Mouse IL-4-dependent proliferation of Mouse HT-2 cells is ≤ 0.05 ng/ml.
Specific Activity: ≥ 2 x 10^7 units/mg
Molecular weight: 25 kDa

Storage: Store lyophilized at 2-8°C for 6 months or at -20°C long term.
After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Tartar DM, VanMorlan AM, Wan X, Guloglu FB, Jain R, Haymaker CL, et al. FoxP3+RORgammat+ T helper intermediates display suppressive function against autoimmune diabetes. J Immunol. 2010 Apr 1;184(7):3377-85. doi: 10.4049/jimmunol.0903324. Epub 2010 Feb 24. PubMed PMID: 20181889.
2. Kwon HK, Lee CG, So JS, Chae CS, Hwang JS, Sahoo A, et al. Generation of regulatory dendritic cells and CD4+Foxp3+ T cells by probiotics administration suppresses immune disorders. Proc Natl Acad Sci U S A. 2010 Feb 2;107(5):2159-64. doi: 10.1073/pnas.0904055107. Epub 2010 Jan 13. PubMed PMID: 20080669.
3. Wang J, Huizinga TW, Toes RE. De novo generation and enhanced suppression of human CD4+CD25+ regulatory T cells by retinoic acid. J Immunol. 2009 Sep 15;183(6):4119-26. doi: 10.4049/jimmunol.0901065. Epub 2009 Aug 28. PubMed PMID: 19717521.
4. Smits AM, van Vliet P, Metz CH, Korfage T, Sluijter JP, Doevendans PA, et al. Human cardiomyocyte progenitor cells differentiate into functional mature cardiomyocytes: an in vitro model for studying human cardiac physiology and pathophysiology. Nat Protoc. 2009;4(2):232-43. doi: 10.1038/nprot.2008.229. PubMed PMID: 19197267.