Recombinant human/bovine/porcine TGFB1 Protein, Animal-Free

Cat. No. TGFB1-03H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	High purity optimised human/bovine/porcine TGF-β1 protein. Animal-free (AOF) and carrier protein-free.
Species	Human
Source	E.coli
Description	Transforming growth factor-beta 1 (TGF-β1) is a pleiotropic cytokine part of the TGF-β superfamily. TGF-β1 regulates various cellular processes, including cell proliferation, growth, differentiation, motility, and apoptosis [1]. It plays a crucial role in the immune response, tissue repair, and the epithelial-mesenchymal transition. Transforming growth factor-beta 1 is produced by various cell types, including immune cells, fibroblasts, and epithelial cells. It is synthesized and secreted as an inactive or latent complex, associated with latency-associated proteins (LAP), and targeted to the extracellular matrix [2]. It is released from latency by TGF-β activators including plasmin, matrix metalloproteases, integrins… Once the LAP cleaved, the mature transforming growth factor-beta 1 is a homodimeric protein composed of two identical subunits linked by a disulfide bond. Its amino acid sequence is composed of 390 amino acids. TGF-β1 signals through complexes of cell surface receptors including TGF-βRII/TGF-βRI and ALK-5/ALK-1. This triggers downstream signaling cascades, such as the Smad-dependent and Smad-independent pathways.
Form	Lyophilized from acetonitrile, TFA

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Molecular Mass	24 kDa (dimer)
Purity	> 98%, by SDS-PAGE quantitative densitometry
Applications	iPSC and ESC maintenance and expansion; Chemically defined media
Reconstitution	Resuspend in 10mM HCl at > 100 µg/mL (provided with protein and free of charge), prepare single use aliquots, add carrier protein if desired and store frozen at -20 or -80 centigrade

GENE INFORMATION

Gene Name	TGFB1 transforming growth factor beta 1 [Homo sapiens (human)]
Official Symbol	TGFB1
Synonyms	TGFB1; transforming growth factor beta 1; CED; LAP; DPD1; TGFB; IBDIMDE; TGFbeta; TGF-beta1; transforming growth factor beta-1 proprotein; TGF-beta-1; latency-associated peptide; prepro-transforming growth factor beta-1; transforming growth factor beta1
Gene ID	7040
mRNA Refseq	NM_000660
Protein Refseq	NP_000651
MIM	190180
UniProt ID	P01137

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