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TGF-β1

Catalog # PVGS1530

Product Information

Primary Accession	P01137
Species	Human
Sequence	Ala279-Ser390
Purity	> 95% as analyzed by SDS-PAGE
Endotoxin Level	
Biological Activity	ED_{50}
Expression System	CHO
Formulation	Lyophilized from a 0.2 μm filtered solution in 50 mM NaAc, 50 mM NaCl, pH 5.0.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O or 50 mM Citrate up to 100 μg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	7040
Other Names	Transforming growth factor beta-1 proprotein, Latency-associated peptide, LAP, Transforming growth factor beta-1, TGF-beta-1, TGFB1 (HGNC:11766), TGFB
Target Background	TGF-β1 (transforming growth factor beta 1) is one of three closely related mammalian members of the large TGF-β1 superfamily that share a characteristic cystine knot structure. TGF-β1, -2 and -3 are highly pleiotropic cytokines that act as cellular switches to regulate processes such as immune function, proliferation and epithelial-mesenchymal transition. Each TGF-β isoform has some non-redundant function; for TGF-β1, mice with targeted deletion show defects in hematopoiesis and endothelial differentiation and died of overwhelming inflammation. TGF-β1 signaling begins with high-affinity binding to a type II ser/thr kinase receptor termed TGF-β RII. This receptor then phosphorylates and activates a second ser/thr kinase receptor, TGF-β RI (also called activin receptor–like kinase (ALK)-5), or alternatively, ALK-1. This complex phosphorylates and activates Smad proteins that regulate transcription.

Protein Information

Name	TGFB1 (HGNC:11766)
Synonyms	TGFB
Function	Transforming growth factor beta-1 proprotein: Precursor of the Latency-associated peptide (LAP) and Transforming growth factor beta-1 (TGF-beta-1) chains, which constitute the regulatory and active subunit of TGF-beta-1, respectively.
Cellular Location	[Latency-associated peptide]: Secreted, extracellular space, extracellular matrix
Tissue Location	Highly expressed in bone (PubMed:11746498, PubMed:17827158). Abundantly expressed in articular cartilage and chondrocytes and is increased in osteoarthritis (OA) (PubMed:11746498, PubMed:17827158). Colocalizes with ASPN in chondrocytes within OA lesions of articular cartilage (PubMed:17827158)