



Product Data Sheet

Human Recombinant Transforming Growth Factor Beta 1 (TGF-β1) Protein

Catalog Number: ORF.GF.TGFBI

Product Details	
Product Name	Human Recombinant Transforming Growth Factor Beta 1 (TGF-β1) Protein
Catalog Numbers	ORF.GF.TGFBI-10, ORF.GF.TGFBI-50, ORF.GF.TGFBI-100, ORF.GF.TGFBI-500, ORF.GF.TGFBI-1000
Sizes	10 μg, 50 μg, 100 μg, 500 μg, 1000 μg
Species	Human
UniProt ID	P01137
Product Form	Lyophilized

Product Description	Product Image
<p>Transforming Growth Factor Beta 1 (TGF-β1) is a multifunctional cytokine that plays a central role in regulating cell growth, differentiation, immune response, and extracellular matrix production. It signals primarily through type I and type II TGF-β receptors, leading to activation of SMAD-dependent and SMAD-independent pathways, which control diverse cellular processes including epithelial-mesenchymal transition (EMT), fibrosis, and immune modulation.</p> <p>TGF-β1 is synthesized as a latent precursor complex consisting of a propeptide (LAP) and the mature cytokine, which requires activation through proteolytic cleavage or conformational changes. Once active, TGF-β1 orchestrates tissue homeostasis and repair and is essential for embryonic development and immune tolerance. Dysregulation of TGF-β1 signaling is implicated in various diseases, including cancer, fibrosis, and autoimmune disorders. Recombinant TGF-β1 is widely used in vitro to study EMT, stem cell differentiation, wound healing models, and immune cell regulation, making it a key tool in both basic and translational biomedical research.</p>	

For research applications only. Not for diagnostic or therapeutic use.

Product Specifications		
Protein Description	112-amino acid mature TGF- β 1 protein consisting of residues Ala279 to Ser390	
Expression System	Available upon request	
Amino Acid Sequence	ALDTNYCFSS TEKNCCVRQL YIDFRKDLGW KWIHEPKGYH ANFCLGPCPY IWSLDTQYSK VLALYNQHNP GASAAPCCVP QALEPLPIVY YVGRKPKVEQ LSNMIVRSCK CS	
Molecular Weight	SDS-PAGE	12.8 kDa (Expected)
Purity	SDS-PAGE	> 95%
Endotoxin	LAL	<1 EU/microgram
Bioactivity	Determined by the inhibition of mouse IL-4 dependent proliferation of mouse HT-2 cells	Biologically Active

Product Preparation	
Shipping Temperature	Ambient
Form	Lyophilized
Reconstitution Instructions	Reconstitute with sterile 10 mM Acetic Acid

Storage and Stability		
	Temperature	Storage Time
Lyophilized Form	-20°C to -80°C	12 months
Reconstituted Form	2°C to 8°C	1 month
Reconstituted Form	-20°C to -80°C	3 months

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