



# Recombinant Human TGF-beta1

20211129BB



**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

<b>Cat.-no.:</b>	<b>300-023</b>
Size:	10 µg
Lot. No.:	According to product label

### Sequence

ALDTNYCFSS TEKNCCVRQL YIDFRKDLGW KWIHEPKGYH  
ANFCLGPCPY IWSLDTQYSK VLALYNQHNP GASAAPCCVP  
QALEPLPIVY YVGRKPKVEQ LSNMIVRSCK CS

### Database References

<b>Protein RefSeq:</b>	NP_000651.1
<b>Uniprot ID:</b>	P01137
<b>mRNA RefSeq:</b>	NM_000660.4

## Scientific Background

<b>Gene-ID (NCBI):</b>	4052
<b>Synonyms:</b>	LTBP1

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. Recombinant human TGF-β1 is a 25.0 kDa protein composed of two identical 112 amino acid polypeptide chains linked by a single disulfide bond.

## Product Specifications

<b>Expressed in</b>	CHO cells
<b>Purity</b>	> 98% by SDS-PAGE & HPLC analyses
<b>Structural Information</b>	homodimer
<b>Endotoxin level</b>	< 0.1 ng /µg of protein (<1EU/µg).
<b>Formulation</b>	lyophilized
<b>Length (aa):</b>	112
<b>MW:</b>	25 kDa

**Stability:** The lyophilized protein is stable at room temperature for 1 month and at 4°C for 6 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 12 months at -20°C to -80°C.

**Reconstitution:** Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



**AVOID REPEATED FREEZE AND THAW CYCLES!**

**Biological Activity:** The ED<sub>50</sub> as determined by TGF-β1's ability to inhibit the mouse IL-4-dependent proliferation of mouse HT-2 cells is ≤ 0.05 ng/ml (≥ 2 x 10<sup>7</sup> units/mg).