

## Human TGF-beta1 (glycosylated, HEK)

Human Transforming Growth Factor-beta1, recombinant

Synonyms: Transforming Growth Factor- $\beta$ 1, Differentiation inhibiting factor, Cartilage-inducing factor.

**PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING**

Size	Order #	Lot #	Expiry Date
2 $\mu$ g	1935.955.002		
10 $\mu$ g	1935.955.010		
50 $\mu$ g	1935.955.050		
100 $\mu$ g	1935.955.100		
500 $\mu$ g	1935.955.500		
1 mg	1935.955.199		
10 mg	1935.955.109		

Please enquire for bulk quantities and other vial sizes

### Description

Recombinant human Transforming Growth Factor-beta 1 (TGF- $\beta$ 1) is a 25.0 kDa protein composed of two identical 112 amino acid polypeptide chains linked by a single disulfide bond. The three mammalian isoforms of TGF- $\beta$ , TGF- $\beta$ 1, - $\beta$ 2, - $\beta$ 3, signal through the same receptor and elicit similar biological responses. They are multi-functional 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 remodelling and wound healing. They are secreted predominantly as latent complex which are stored at the cell surface and in the extracellular matrix. The release of biologically active TGF- $\beta$  isoform from a latent complex involves proteolytic processing of the complex and /or induction of conformational changes by proteins such as thrombospondin-1. TGF- $\beta$ 1 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.

- **Biological Activity**  $\geq 2 \times 10^7$  units/mg
- **Source** HEK
- **Purity**  $\geq 98$  % (SDS-PAGE, HPLC)
- **Endotoxin level**  $\leq 0.1$  ng/ $\mu$ g ( $\leq 1$  EU/ $\mu$ g)
- **Stabilizer** None
- **Buffer** TFA (0.1%)\*
- **Physical state** Sterile filtered, lyophilized

### Biological Activity

The ED<sub>50</sub> of  $\leq 0.05$  ng/ml was determined by TGF- $\beta$  1's ability to inhibit the mouse IL-4-dependent proliferation of mouse HT-2 cells. It corresponds to a specific activity of  $\geq 2 \times 10^7$  units/mg.

### Reconstitution

We recommend a quick spin followed by reconstitution in sterile 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 (>6 month) of the reconstituted protein we recommend to prepare aliquots by further dilution into aqueous solutions containing a carrier protein (e.g. 0.1% HSA ultra pure 2835.958.188) and store in working aliquots at -20°C to -80°C. Working aliquots should be at the highest possible concentration.

### Stability

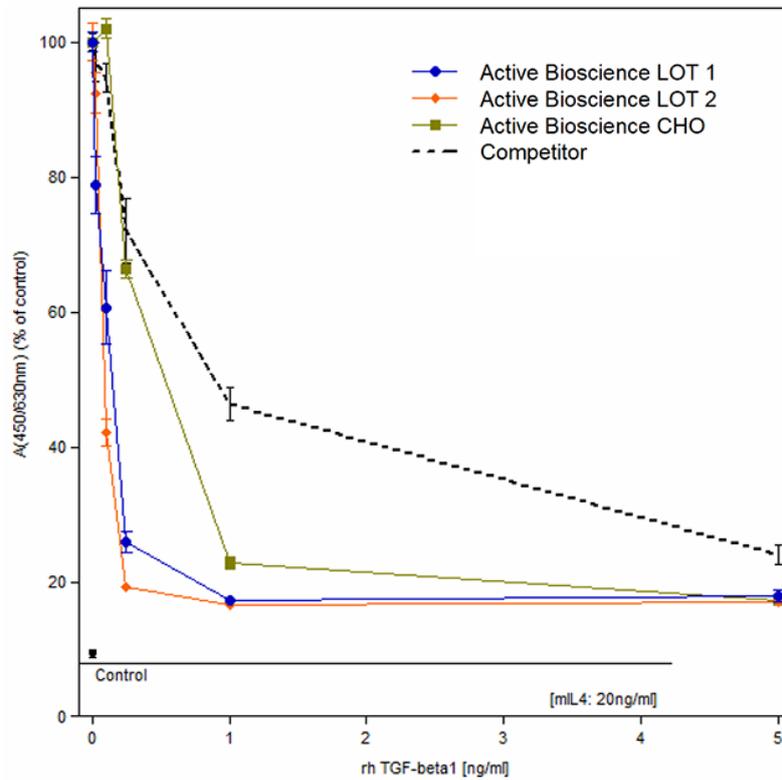
The lyophilized protein is stable at room temperature for up to 4 weeks, at 4°C for up to 6 months, and below -20°C until expiry date. Reconstituted protein is stable for at least 12 months when stored in working aliquots with a carrier protein at -20°C to -80°C. **Please avoid repeated freeze-thaw cycles.**

\*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

**Amino Acid Sequence**

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

**Biological Activity of Human TGF-beta1 (glycosylated, HEK)**



**Fig. 1:** TGF-beta1 (glycosylated, HEK) Inhibition of Murine IL-4-induced Proliferation in HT2 cells (HT2212-01)

Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

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