

Product Information

Transforming Growth Factor- β 3 human recombinant, expressed in Sf 21 cells

Catalog Number **T5425**

Storage Temperature -20°C

Synonyms: **TGF- β 3**

Product Description

Transforming Growth Factor- β is a multifunctional protein capable of influencing cell proliferation, differentiation, and a variety of cellular functions.^{1, 2} In general, TGF- β stimulates growth of cells of mesenchymal origin, but inhibits growth of hepatocytes, T and B lymphocytes, and epithelial cells. TGF- β is known to interact with several agents including epidermal growth factor (EGF), fibroblast growth factor (FGF), transforming growth factor- α (TGF- α), platelet-derived growth factor (PDGF), and interleukin-2 (IL-2). TGF- β is an important mediator in the formation of extracellular matrix, generally with activities that stimulate the formation of extracellular matrix and inhibit the degradation of the extracellular matrix.³ TGF- β is a potent inhibitor of the myogenesis of skeletal and cardiac muscle cells *in vitro*.⁴

TGF- β 1, TGF- β 2, and TGF- β 3 have differences in potencies indicating different receptor affinities for some cell types.⁵ TGF- β 3 is expressed in relatively high levels in normal adult human heart, lung and brain.

Recombinant human TGF- β 3 was produced in the insect cell line *Spodoptera frugiperda* 21 using a recombinant baculovirus containing the human cDNA. TGF- β 3 is a member of the TGF- β family of growth factors.

The biological activity of TGF- β 3 was tested in culture by measuring its ability to inhibit ^3H -thymidine incorporation in the IL-4 dependent mouse T-helper cell line HT-2.⁶ The EC_{50} is defined as the effective concentration of growth factor that elicits 50% inhibition of cell growth in a cell based bioassay.

Supplied lyophilized from 0.2 μm -filtered solution in 35% acetonitrile and 0.1% trifluoroacetic acid containing 50 μg BSA per 1 μg of cytokine.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Purified recombinant human TGF- β 3 is a hydrophobic protein that adheres to surfaces. Reconstitute the contents of the vial using 0.2 μm -filtered 4 mM HCl solution, containing 1 mg/ml of BSA to produce a TGF- β 3 stock solution of 1 $\mu\text{g}/\text{ml}$. Completely rinse the walls of the vial.

Storage/Stability

Store at -20°C . Upon reconstitution, this cytokine may be stored at $2-8^{\circ}\text{C}$ for up to one month. For long term storage, aliquot and freeze at -20°C to -70°C . Avoid repeated freeze-thaw cycles. Do not store in a frost-free freezer.

References

1. Sporn, M. B., et al., *Science*, **233**, 532 (1986).
2. Roberts, A. B., et al., *Adv. Cancer Res.*, **51**, 107 (1987).
3. Sporn, M. B., et al., *J. Cell Biol.*, **105**, 1039 (1987).
4. Sporn, M. B., et al., *Growth Factors*, **8**, 1 (1993).
5. Cheifetz, S. et al., *J. Biol. Chem.*, **265**, 20533 (1990).
6. Tsang, M., et al., *Lymphokine Res.*, **9**, 607 (1990).

JF,PHC 06/10-1

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