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Product Information

TGF-β3 active, human
recombinant, expressed in *Nicotiana benthamiana*

Catalog Number **T9705**
Storage Temperature –20 °C

Product Description

Transforming growth factor-β is a family of five related cytokines that have been shown to be present in a wide variety of normal and neoplastic cells, indicating the importance of these homodimer proteins as multi-functional regulators of cellular activity. The three mammalian isoforms of TGF-β (TGF-β1, TGF-β2, and TGF-β3) signal through the same receptor and elicit similar biological responses. They are involved in physiological processes as embryogenesis, tissue remodeling, and wound healing.

Recombinant human TGF-β3 is lyophilized from 0.05 M Tris-HCl buffer, pH 7.4. It is produced by transient expression of TGF-β3 in non-transgenic plants. Recombinant human TGF-β3 contains a 6-His-tag at the N-terminal end and is purified by sequential chromotography (FPLC).

This product is Xeno-free, containing no animal-derived components nor impurities.

Molecular mass: 27.2 kDa
(composed of two identical 118 amino acid chains linked by a single disulfide bond)

Sequence:
HHHHHHALDTNYCFRNLEENCCVRPLYIDFRQDLGW
KWVHEPKGYYANFCSGPCPYLRSADTTHSTVLGLYN
TLNPEASASPCCVPQDLEPLTILYYVGRTPKVEQLSN
MVVKSCKCS

Purity: >97% (SDS-PAGE)

ED_{50}: ≤50 ng/mL

Biological activity: The biological activity of TGF-β3 is measured in culture by its ability to inhibit mink lung epithelial (Mv1Lu) cell proliferation.

Endotoxin: <0.4 EU per 1 μg of the protein
(LAL method)

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

The lyophilized protein should be reconstituted in water to a concentration of 5–25 ng/μL. It is recommended to add a carrier protein (0.1% HSA or BSA). Due to the protein nature, dimers and multimers may be observed.

Storage/Stability

The product ships at ambient temperature. Upon receiving, store it immediately at –20 °C or below.

Upon reconstitution, aliquot and store under sterile conditions at –20 °C or below. Avoid repeated freeze/thaw cycles.

References

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3. Miller, D.A. et al., Transforming growth factor β: a family of growth regulatory peptides. Ann. N.Y. Acad. Sci., **593**, 208-217 (1990).
4. Bocharov, E.C. et al., Dynamics-modulated biological activity of transforming growth factor beta3. J. Biol. Chem., **277**(48), 46273-46279 (2002).
5. Zhongcheng, Z., and Sun, P.D., An improved recombinant mammalian cell expression system for human transforming growth factor-β2 and factor-β3 preparations. Protein Expr. Purif., **50**, 9-17 (2006).

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