Transforming Growth Factor-beta3 (TGF-β3), active, human recombinant, expressed in Nicotiana benthamiana,His Tag, animal free

Catalog No:	99856
Lot No:	
Source:	Nicotiana benthamiana
Molecular formula:	$C_{600}H_{902}N_{166}O_{174}S_{10}$
Extinction coefficient:	E 0.1% = 1.72 (A 280 nm)
Molecular weight:	recombinant human TGF-β3 is a 27.2 kDa protein composed of two identical 118 amino acid polypeptide chains linked by a single disulfide bond
p.I:	6.75
Purity:	>95 % as determined by SDS-PAGE gel
Endotoxin level:	< 0.04 EU/ µg protein (LAL method)

Sequence:

HHHHHHALDT NYCFRNLEEN CCVRPLYIDF RQDLGWKWVH EPKGYYANFC SGPCPYLRSA DTTHSTVLGL YNTLNPEASA SPCCVPQDLE PLTILYYVGR TPKVEQLSNM VVKSCKCS

Description:

Recombinant human TGF-β3 is a 27.2 kDa protein composed of two identical 118 amino acid peptide chains linked by a single disulfide bond. Transforming growth factor–β is a family of five related cytokines that have been shown on a wide variety of normal and neoplastic cells, indicating the importance of these homo-dimmer 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 remodelling and wound healing.

Source:

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 chromatography (FPLC). This product contains no animal–derived components or impurities.

Formulation:

Lyophilized from a Tris HCl 0.05M buffer at pH 7.4

Reconstitution recommendation:

Lyophilized protein should be reconstituted in water to a concentration of 50 ug /ml. Due to the protein nature, dimers and multimers may be observed.

Storage and Stability:

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Repeated freezing and thawing is not recommended.

Purity Confirmation:

The protein was resolved by SDS polyacrylamide gel electrophoresis and the gel was stained with Coomassie blue.

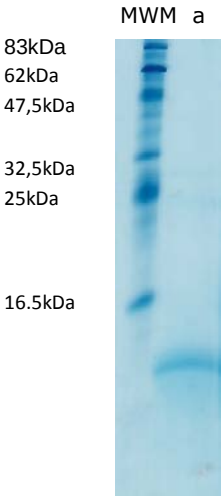


Figure 1. SDS-PAGE analysis of recombinant TGF β3. Samples were loaded in 15% SDS-polyacrylamide gel and stained with Coomassie blue.
Lane MWM: Molecular weight marker (kDa)
Lane a: contains 0.2 ug of recombinant TGF β3.
(reducing condition, ~13kDa monomer and ~26kDa homodimers)

Serological Confirmation:

The protein was electrophoresed under reducing condition on a 15% SDS-polyacrylamide gel, transferred by electroblotting to a NC membrane and visualized by immune-detection with specific antibody TGF β3.

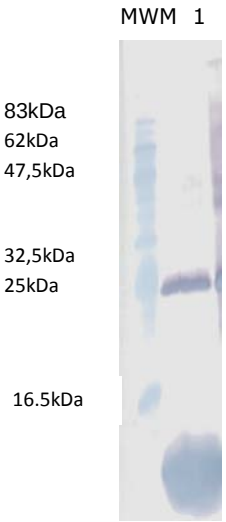
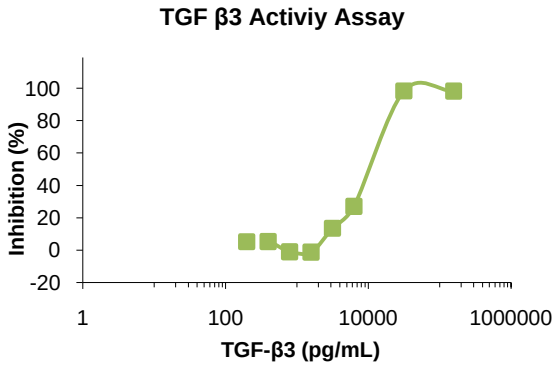


Figure 2. Western Blot analysis of recombinant TGFβ3.
Lane MWM: Molecular weight marker (kDa)
Lane 1: 0.2 ug of TGF β3.

Biological Activity:

The biological activity of TGF-β3 is measured in culture by its ability to inhibit the mink lung epithelial (Mv1Lu) cells proliferation. ED50 ≤ 40ng/ml



References:

Ten Dijke, P., et al. (1988). Identification of a new member of the transforming growth factor type β gene family. Proc. Natl. Acad. Sci. USA, 85: 4715-4719.

Massage, J. (1990). The transforming growth factor-beta family. Ann. Rev. Cell Biol., 6:597-641.

Miller, D.A., et al. (1990). Transforming growth factor β: a family of growth regulatory peptides. Ann. N.Y. Acad. Sci., 593: 208-217.

Bocharov. E.C., et al. (2002). Dynamics-modulated biological activity of transforming growth factor beta3 J. Biol. Chem., 277(48): 46273-46279.

Zhongcheng, Z., Sun, P.D., (2006). An improved recombinant mammalian cell expression system for human transforming growth factor-β2 and factor-β3 preparations. Protein Expr. Purif., 50: 9-17