

Transforming Growth Factor-beta2 (TGF-β2), active, human recombinant, expressed in *Nicotiana benthamiana*, His Tag, animal free

Catalog No:	99855
Lot No:	
Source:	<i>Nicotiana benthamiana</i>
Molecular formula:	$C_{602}H_{909}N_{167}O_{171}S_{10}$
Extinction coefficient:	E 0.1% = 2.02 (A 280 nm)
Molecular weight:	recombinant human TGF-β2 is a 27.08 kDa protein composed of two identical 118 amino acid polypeptide chains linked by a single disulfide bond.
p.I:	7.72
Purity:	>95% as determined by SDS-PAGE gel.
Endotoxin level:	<0.04 EU/ μg protein (LAL method)

Sequence:

HHHHHHALDA AYCFRNVQDN CCLRPLYIDF KRDLGWKWIH EPKGYNANFC AGACPYLWSS
DTQHSRVLSL YNTINPEASA SPCCVSQDLE PLTI LYYIG KTPKIEQLSN MIVKSKCS

Description:

Recombinant human TGF-β2 is a 27.08 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-dimer 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-β2 in non-transgenic plants. Recombinant human TGF-β2 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.

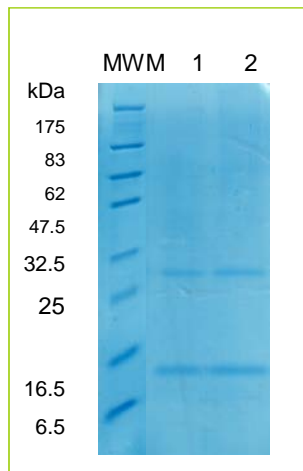


Figure 1. SDS-PAGE analysis of recombinant TGF- β 2. Samples were loaded in 15% SDS-polyacrylamide gel and stained with Coomassie blue.

Lane 1 Molecular weight marker (kDa)

Lane 2-3 contain 0.3 μ g of recombinant TGF- β 2. (reducing condition, \sim 13kDa monomer and \sim 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- β 2 (reducing conditions \sim 13kDa monomer and \sim 26kDa homodimers)

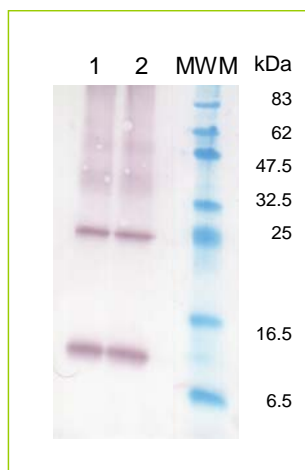


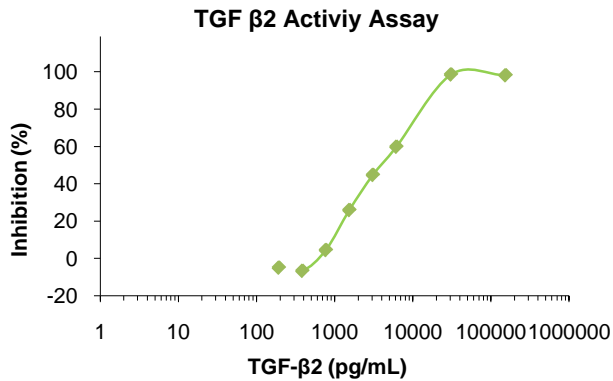
Figure 2. Western Blot analysis of recombinant TGF- β 2.

Lane 1 & 2: 0.2 μ g of TGF- β 2

Lane 3: Molecular weight marker (kDa).

Biological Activity:

The biological activity of TGF- β 2 is measured in culture by its ability to inhibit the mink lung epithelial (Mv1Lu) cells proliferation. ED50 \leq 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.

Massague, 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.

Zhongcheng, Z., Sun, P.D., (2006). An improved recombinant mammalian cell expression system for human transforming growth factor- β 2 and factor- β 3 preparations. *Protein Expr. Purif.*, 50: 9-17.

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