ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Human Recombinant Transforming Growth Factor-alpha (TGF-alpha) Protein

Cat # TGFA15-R-20	Recombinant Human TGF-alpha protein	**SIZE**: 20 ug
Cat # TGFA15-R-100	Recombinant Human TGF-alpha protein	**SIZE**: 100 ug
	FORM: Soln Lyophilized	**Storage** : Store at -20oC.

Transforming growth factors (TGFs) are biologically active polypeptides that reversibly confer the transformed phenotype on cultured cells. TGF-alpha shows about 40% sequence homology with epidermal growth factor including 6 conserved cysteine residues, which form 3 intramolecular disulfide bonds. TGF-alpha competes with EGF for binding to the EGF receptor, stimulating its phosphorylation and producing a mitogenic response.

Human TGF-alpha or Sacroma growth factor, TGF-type I, ETGF (precursor 160-aa, mature form 50-aa, 40-89 aa; chromosome 2p13) Interacts with the PDZ domains of SDCBP and SNTA1 and Contains 1 EGF-like domain. The interaction with SDCBP, is required for the targeting to the cell surface.

TGF-α is synthesized and secrted by monocytes, keratinocytes and many normal and tumor cells and tissues. Mice genetically engineered to be lacking TGF-α expression showed no abnormalities except for the detection of a "wavy" hair coat.

Form, Storage, and Reconstitution

Recombinant human TGF-alpah is a 50-aa peptide (~5.5 kda) peptide . Human TGF-alpha was expressedin E. coli and purified using proprietary methods (purity >98% SDS-PAGE and hplc analyses). Endotoxin level is <0.1 ng/ug (<1 EU/ug) protein.

Recombinant Human TGF-alpha Sequence (50-aa)

VVSHFNDCPD SHTQFCFHGT CRFLVQEDKP
ACVCHSGYVG ARCEHADLLA

Biolgical activity

The **ED_{50}** as determined by the dose-dependent stimulation of thymidine uptake by BALB/c 3T3 cells is < 0.2 ng/ml (specific activity of ≥ 5 x 10^6 units/mg).

Recombinant protein is supplied in PBS in a sterile filtered and powder form with no preservatives. The lyophilized protein is stable for 2 years at -20oC.

The lyophilized TGF-alpha is soluble in water and many buffers. It should be reconstituted in water or PBS at a concn of 0.1-1 mg/ml and stored in suitable aliquots at -20oC or below. Add 100 ul buffer, lightly vortex, and mix for 15 min at room temp. The vial should be centrifuged briefly to recover solution at the bottom.

It is also possible to reconstitute the protein in PBS or other buffers containing 0.1% BSA as a carrier protein. The solution can be sterile filtered if necessary.

General References:

Tam JP (1986) PNAS 83, 8082-8086; Collins GB (1999) CLin. Genet. 55, 61-62; Ellis DL (1987) New Eng. J. Med. 317, 15821587;

*This product is for In vitro research use only.

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