

## TGF alpha Protein, Human, Recombinant V2

## General Information

Synonyms:	TGF- $\alpha$ ;transforming growth factor alpha;TFGA;transforming growth factor $\alpha$ ;TGFa
Protein Construction:	Val40-Ala89
Species:	Human
Expression Host:	E. coli
Accession:	P01135
Molecular Weight:	5.8 kDa (Reducing conditions)

## QC Testing

Biological Activity:	ED 50 < 0.2 ng/ml, measured by Cell Proliferation Assay using BALB/c 3T3 cells, corresponding to a specific activity of $\geq 5.0 \times 10^6$ units/mg.
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 0.2 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from 0.22 $\mu$ m filtered solution in PBS.

## Preparation and Storage

## Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100  $\mu$ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

## Stability &amp; Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

## Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

## Protein Background

Transforming Growth Factor-alpha (TGF- $\alpha$ ), also known as sarcoma growth factor, TGF-type I and ETGF, is a member of the EGF family of cytokines. It is expressed in monocytes, brain cells, keratinocytes and various tumor cells. TGF- $\alpha$  signals through EGFR and acts synergistically with TGF-beta to promote the proliferation of a wide range of epidermal and epithelial cells. TGF- $\alpha$  is a transforming growth factor that is a ligand for the epidermal growth factor receptor, which activates a signaling pathway for cell proliferation, differentiation and development. This protein may act as either a transmembrane-bound ligand or a soluble ligand. The biological actions of TGF- $\alpha$  and EGF are similar. For instance, TGF- $\alpha$  and EGF bind to the same receptor. When TGF- $\alpha$  binds to

EGFR it can initiate multiple cell proliferation events.

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