

Product Information

Transforming Growth Factor- α (TGF- α)

Human, Recombinant
Expressed in *E. coli*

Product No. **T 7924**

Product Description

Transforming Growth Factor- α (TGF- α), originally discovered in 1978 in conditioned medium of retrovirus-transformed fibroblasts,¹ is a protein that reversibly confers a transformed phenotype upon normal non-neoplastic cells, such as normal rat kidney (NRK) fibroblasts.² The transforming activity of TGF- α was later shown to require the presence of transforming growth factor- β , which potentiates the action of TGF- α via a separate receptor.²⁻⁴ Secreted TGF- α proteins range from 5 to 20 kDa.⁵ This recombinant human TGF- α from *E. coli* is a 5.5 kDa protein containing 50 amino acids.⁶⁻⁷ TGF- α is similar in structure to epidermal growth factor showing a 30-35% homology in amino acid sequence with conservation of all six cysteine residues⁶ and a quite similar NMR-determined three-dimensional structure.⁸ TGF- α exerts its cellular action via the EGF cell-surface receptor⁹⁻¹⁰ and induces many of the same actions as EGF,^{5, 11-12} but is immunologically distinct from EGF.¹³

Reagent

Lyophilized from a 0.2 μ m-filtered buffered solution.

Storage/Stability

The lyophilized product is best stored at -20°C . It is stable for up to a few weeks at room temperature. Reconstituted product should be stored in working aliquots at -20°C . Repeated freezing and thawing is not recommended. Do not store in frost-free freezer.

Reconstitution and Use

Reconstitute the contents of the vial in water to a concentration of 0.1-1.0 mg/ml. This solution can then be diluted into other aqueous buffers and stored at $2-8^{\circ}\text{C}$ for up to one week. For extended use, store in working aliquots at -20°C . If aseptic technique is used additional filtration should not be necessary and should be avoided due to possible adsorption of the product onto the filter membrane.

Product Profile

The biological activity of TGF- α was assayed by measuring its ability to stimulate ^3H -thymidine incorporation into BALB/c 3T3 cells.¹⁴ The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: $\geq 98\%$ as determined by SDS-PAGE and HPLC.

Endotoxin: ≤ 0.1 ng/ μ g growth factor.

References

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KAA 12/03

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