

Cytokines

Human Recombinant TGF-alpha



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Catalog # 78123
78123.1

10 µg
50 µg

Product Description

Transforming growth factor-alpha (TGF- α) a member of the epidermal growth factor (EGF) family that is expressed in normal epithelial cells, monocytes, macrophages, brain cells, keratinocytes, and cancer cells. TGF- α binds EGF receptor (EGFR) and activates tyrosine kinase signaling. In epidermal and epithelial cells, this results in proliferation and differentiation. TGF- α is not structurally or genetically related to TGF- β , and the two ligands act through different signaling pathways. In vitro, TGF- α was shown to stimulate anchorage-independent growth (Singh & Coffey).

Product Information

Alternative Names: ETGF, Sarcoma growth factor, TGF, TGF- α , TGF-type I, Transforming growth factor-alpha
Accession Number: P02775
Amino Acid Sequence: VVSHFNDCPD SHTQFCFHGT CRFLVQEDKP ACVCHSGYVG ARCEHADLLA
Predicted Molecular Mass: 5.6 kDa
Species: Human
Cross Reactivity: Mouse, Rat
Formulation: Lyophilized after dialysis against phosphate-buffered saline.
Source: E. coli

Specifications

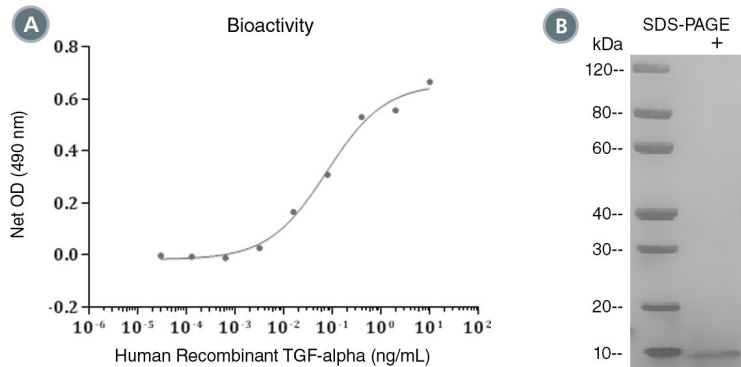
Activity: The specific activity is $\geq 5.0 \times 10^6$ units/mg ($EC_{50} \leq 0.2$ ng/mL) as determined by a cell proliferation assay using BALB/c 3T3 cells.
Purity: $\geq 95\%$
Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/ μ g protein.

Preparation and Storage

Storage: Store at -80°C .
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at $2 - 8^\circ\text{C}$ for more than 1 week or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant TGF-alpha was tested by its ability to promote the proliferation of BALB/c 3T3 cells. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is less than 0.2 ng/mL.

(B) 2 µg of Human Recombinant TGF-alpha was resolved with SDS-PAGE under reducing (+) conditions and visualized by Coomassie Blue staining. Human Recombinant TGF-alpha has a predicted molecular mass of 5.6 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Singh B & Coffey RJ. (2014) From wavy hair to naked proteins: the role of transforming growth factor alpha in health and disease. *Semin Cell Dev Biol* 28: 12–21.

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