Datasheet

Cat. No. P1424

Recombinant Human Transforming Growth Factor-alpha

Information

Gene ID	
Accession #	
Alternate Names	
Source	E. coli
M.Wt	Approximately 6 kDa, a single non-glycosylated polypeptide chain containing 50 amino acids.
AA Sequence	Val40-Ala89; Accession # P01135
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 12 months from date of receipt, -20 to -70 °C as supplied - 1 month, 2 to 8 °C under sterile conditions after reconstitution - 3 months, -20 to -70 °C under sterile conditions after reconstitution
Formulation	Lyophilized from 0.2 μm filtered concentrated solution in Acetonitrile and TFA.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in 10 mM Acetic Acid to a concentration of 0.1 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions. Do not reconstitute in cell culture media directly.
Biological Activity	Measured in a cell proliferation assay using Balb/3T3 mouse embryonic fibroblast cells. The ED for this effect is 0.1-0.4 ng/mL.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	100μg		
Recombinant Human Transforming Growth Factor-alpha	100μg		

Use a manual defrost freezer and avoid repeated freeze-thaw cycles
- 12 months from date of receipt, -20 to -70 °C as supplied
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 3 months, -20 to -70 °C under sterile conditions after reconstitution

Quality Control

Purity	> 90 % by SDS-PAGE analyses.
Endotoxin	Less than 1 EU/μg of rHuTGF-α as determined by LAL method.

Description

TGF-alpha was originally isolated from the conditioned media of oncogenically transformed cells as an EGF-like bioactivity. TGF-alpha is a member of the EGF family of cytokines that are synthesized as transmembrane precursors and are characterized by the presence of one or several EGF structural units in their extracellular domain. The soluble forms of these cytokines are released from the transmembrane protein by proteolytic cleavage. Membrane-bound proTGF-alpha is biologically active and seems to play a role in mediation of cell-cell adhesion and in juxtacrine stimulation of adjacent cells. Expression of TGF-alpha is widespread in tumors and transformed cells. TGF-alpha is also expressed in normal tissues during embryogenesis and in adult tissues, including pituitary, brain, keratinocytes and macrophages. Mature TGF-alpha shows approximately 93% amino acid sequence identity with mouse or rat TGF-alpha and is not species specific in its biological effects.TGF-alpha binds to the EGF receptor and activates the receptor tyrosine kinase. Accordingly, TGF-alpha shows a similar potency to EGF as a mitogen for fibroblasts and as an inducer of epithelial development in vivo. TGF-alpha is reportedly more potent than EGF as an angiogenic factor in vivo and as a stimulator for keratinocyte migration. The EGF receptor gene represents the cellular homologue of the avian v-erb-B oncogene.

Reference

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