Data Sheet (Cat.No.TMPK-00757)

TargetMol

TGF alpha Protein, Human, Recombinant (hFc)

General Information

Synonyms:	TGF type 1;TGFA;TGF-alpha;TGF-α;ETGF
Protein Construction:	Val40-Ala89
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P01135-1
Molecular Weight:	32.9 kDa (predicted). Due to glycosylation, the protein migrates to 38-45 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	1. Immobilized Human TGF-alpha, hFc Tag at 0.2μg/ml (100μl/well) on the plate. Dose response curve for Biotinylated Anti-TGF-alpha Antibody, hFc Tag with the EC50 of 6.0ng/ml determined by ELISA (QC Test). 2. Human EGFR, His Tag captured on CM5 Chip via anti-his antibody can bind Human TGF-alpha, hFc Tag with an affinity constant of 0.31 μM as determined in SPR assay.
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tris, 100 mM NaCl (pH 8.0). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. 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 (TGFA) has been proposed as a candidate gene in the etiology of nonsyndromic cleft lip with or without cleft palate (NS-CL/P) and of nonsyndromic cleft palate only (NS-CPO). Biologic support for a role of TGFA arises from its presence at high levels in the epithelial tissue of the medial edge of the palatal shelves at the time of shelf fusion in mice.

Reference

Machida J, et al. Transforming growth factor-alpha (TGFA): genomic structure, boundary sequences, and mutation analysis in nonsyndromic cleft lip/palate and cleft palate only. Genomics. 1999 Nov 1;61(3):237-42. doi: 10.1006/geno.1999.5962. PMID: 10552925.

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