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Human Transforming Growth Factor α (hTGF- α)

For Research Use Only. Not for Use in Diagnostic Procedures.

MW (kDa):	UniProt ID:	Entrez-Gene Id:
5	#P01135	7039
Background	TGF- α is a member of the EGF family of proteins and is expressed by epithelial cells, keratinocytes, macrophages, and many tumor-derived cell lines (1-4). Soluble TGF- α is produced by proteolytic cleavage of a transmembrane precursor (5). TGF- α promotes cell proliferation and differentiation of a diverse array of cell types including cancer and neural cells (1,4,6). TGF- α binds to EGFR/ErbB1 and induces receptor dimerization and tyrosine kinase activation (7). TGF- α activates the MAPK pathways and involves Stat3 and Stat5 (1,6). Increased levels of TGF- α expression are associated with many cancers including breast cancer (1,8,9).	
Endotoxin	Less than 0.01 ng endotoxin/1 μ g hTGF- α .	
Purity	>98% as determined by SDS-PAGE of 6 μ g reduced (+) and non-reduced (-) recombinant hTGF- α . All lots are greater than 98% pure.	
Source / Purification	Recombinant human TGF- α (hTGF- α) Val40-Ala89 (Accession #NP_003227) was produced in <i>E. coli</i> at Cell Signaling Technology.	
Bioactivity	The bioactivity of recombinant hTGF- α was determined in a MCF-10A cell proliferation assay. The ED ₅₀ of each lot is between 0.25-1.0 ng/ml.	
Background References	<ol style="list-style-type: none"> Humphreys, R.C. and Hennighausen, L. (2000) <i>Oncogene</i> 19, 1085-91. Rappolee, D.A. et al. (1988) <i>Science</i> 241, 708-12. Xu, X. et al. (1999) <i>Oncogene</i> 18, 5554-62. Ciana, P. et al. (2003) <i>J Biol Chem</i> 278, 31737-44. Higashiyama, S. et al. (2008) <i>Cancer Sci</i> 99, 214-20. Song, J.I. and Grandis, J.R. (2000) <i>Oncogene</i> 19, 2489-95. Citri, A. and Yarden, Y. (2006) <i>Nat Rev Mol Cell Biol</i> 7, 505-16. Révillion, F. et al. (2008) <i>Ann Oncol</i> 19, 73-80. Masago, K. et al. (2008) <i>Cancer Sci</i> 99, 2295-301. 	

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