

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

MW (kDa):	UniProt ID:	Entrez-Gene Id:
5.6	#P01135	7039
Background		Transforming growth factor alpha (TGF-alpha) is a member of the epidermal growth factor (EGF) family, sharing the same receptor, EGFR, and regulating cell proliferation, survival, and differentiation (1). Members of the family share an EGF-like domain of 45-60 amino acids characterized by the conservation of six regularly spaced cysteines, forming three disulfide bonds that function as their receptor binding domain. TGF-alpha was initially discovered in the media of retrovirally transformed fibroblasts, and its name comes from its ability to induce transformation in cultured fibroblasts (2). This transforming activity was later shown to require TGF-beta, which potentiates the activity of TGF-alpha through a separate receptor (3). Soluble TGF-alpha is released from its membrane-bound precursor, pro-TGF-alpha, following protolytic cleavage, but the membrane bound precursor is still able to bind and activate EGFR (4). Binding of soluble or membrane bound TGF-alpha to EGFR leads to receptor dimerization, tyrosine autophosphorylation, and activation of downstream signaling components. TGF-alpha and related peptides play an important role in the progression of cancer as well as in neuropathological processes (5,6).
Endotoxin		Endotoxin levels are less than or equal to 1 EU / 1 $\mu g$ hTGF- $lpha$ .
Purity		A greater than or equal to 95% purity was determined by SDS-PAGE.
Source / Purifica	ation	Recombinant human TGF- $\alpha$ was expressed in Balb/c-3T3 cells and is supplied in a lyophilized form.
Bioactivity		The bioactivity of recombinant hTGF- $\alpha$ was determined in a Balb/c-3T3 cell proliferation assay. The ED <sub>50</sub> of each lot is less than or equal to 2 ng/ml.
Background Ref	erences	<ol> <li>Derynck, R. (1986) <i>J Cell Biochem</i> 32, 293-304.</li> <li>de Larco, J.E. and Todaro, G.J. (1978) <i>Proc Natl Acad Sci U S A</i> 75, 4001-5.</li> <li>Roberts, A.B. et al. (1981) <i>Proc Natl Acad Sci U S A</i> 78, 5339-43.</li> <li>Wong, S.T. et al. (1989) <i>Cell</i> 56, 495-506.</li> <li>Rusch, V. et al. (1996) <i>Cytokine Growth Factor Rev</i> 7, 133-41.</li> <li>Junier, M.P. (2000) <i>Prog Neurobiol</i> 62, 443-73.</li> </ol>
Trademarks and	Patents	Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.
		All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.
Limited Uses		Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.
		Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices

or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.