

## TNF a Human

**Description:** Tumor Necrosis Factor- $\alpha$  Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 158 amino acids (157 a.a. of the mature human TNF- $\alpha$  and an N-terminal methionine) and having a molecular mass of 17.5kDa. The TNF- $\alpha$  is purified by standard chromatographic techniques.

**Synonyms:** TNF- $\alpha$ , Tumor necrosis factor ligand superfamily member 2, TNF-a, Cachectin, DIF, TNFA, TNFSF2.

**Source:** Escherichia Coli.

**Physical Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.

**Amino Acid Sequence:** MVRSSSRTPS DKPVAHVVAN PQAEGQLQWL NRRANALLAN  
GVELRDNQLV VPSEGLYLIY SQVLFGQGQC PSTHVLLTHT ISRIAVSYQT KVNLLSAIKS  
PCQRETPEGA E AKPWYEPIY LGGVFQLEKG DRLSAEINRP DYLDFAESGQ VYFGIIAL.

**Purity:** Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.

**Formulation:**

1mg of TNF- $\alpha$  Human contain 20mM PB, pH-7.2, and 100mM NaCl.

**Stability:**

Lyophilized Tumor Necrosis Factor- $\alpha$  although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution TNF- $\alpha$  should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Usage:**

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

**Solubility:**

It is recommended to reconstitute the lyophilized Tumor Necrosis Factor- $\alpha$  in sterile 18M-cm H<sub>2</sub>O not less than 100 $\mu$ g/ml, which can then be further diluted to other aqueous solutions.

**Introduction:**

Tumor necrosis factor is a cytokine involved in systemic inflammation and is a member of a group of cytokines that all stimulate the acute phase reaction. TNF is mainly secreted by macrophages. TNF causes apoptotic cell death, cellular proliferation, differentiation, inflammation, tumorigenesis and viral replication, TNF is also involved in lipid metabolism, and coagulation. TNF's primary role is in the regulation of immune cells. Dysregulation and, in particular, overproduction of TNF have been implicated in a variety of human diseases- autoimmune diseases, insulin resistance, and cancer.

**Biological Activity:**

The Specific Activity is  $\geq$ 5.0

#### References:

1. Title: Radiation-triggered Tumor Necrosis Factor (TNF) -NFB Cross-signaling Favors Survival Advantage in Human Neuroblastoma Cells\*Publication:First Published on April 28, 2011, doi: 10.1074/jbc.M110.193755 June 17, 2011 The Journal of Biological Chemistry, 286, 21588-21600. Link:<http://www.jbc.org/content/286/24/215882>. Title: Bidirectional Concentration-Dependent Effects of Tumor Necrosis Factor Alpha in Shigella dysenteriae-Related Seizures. Publication: INFECTION AND IMMUNITY, Apr. 2003, p. 2288-2291 Vol. 71, No. 4 0019-9567/03/\$08.00 DOI: 10.1128/IAI.71.4.2288-2291.2003 Copyright © 2003, American Society for Microbiology. All Rights Reserved. Link: <http://iai.asm.org/content/71/4/2288.full.pdf> 3. Title: Common Inhibitory Serine Sites Phosphorylated by IRS-1 Kinases, Triggered by Insulin and Inducers of Insulin Resistance. Publication: First Published on April 19, 2007, doi: 10.1074/jbc.M610949200 June 22, 2007 The Journal of Biological Chemistry, 282, 18018-18027. Link: <http://www.jbc.org/content/282/25/18018.full> 4. Title: Antioxidative function of L-FABP in L-FABP stably transfected Chang liver cells. Publication: Article first published online: 20 SEP 2005 DOI: 10.1002/hep.20857 Copyright © 2005 American Association for the Study of Liver Diseases. Link: <http://onlinelibrary.wiley.com/doi/10.1002/hep.20857/full> 5. Title: Interferon- induces apoptosis in human SH-SY5Y neuroblastoma cells through activation of JAK/STAT signaling and down-regulation of PI3K/Akt pathway Publication: Article first published online: 11 NOV 2010 DOI: 10.1111/j.1471-4159.2010.07046.x © 2010 The Authors. Journal of Neurochemistry © 2010 International Society for Neurochemistry. Link: <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-4159.2010.07046.x/full> 6. Title: Common Inhibitory Serine Sites Phosphorylated by IRS-1 Kinases, Triggered by Insulin and Inducers of Insulin Resistance. Link: <http://journal.9med.net/qikan/article.php?id=4087627>. Title: The human respiratory syncytial virus non-structural protein 1 regulates type I and type II interferon pathways. Publication: First Published on February 8, 2012, doi: 10.1074/mcp.M111.015909 mcp.M111.015909. Link: <http://www.mcponline.org/content/early/2012/02/08/mcp.M111.015909.short8>. Title: Calcium transient evoked by TRPV1 activators is enhanced by tumor necrosis factor- in rat pulmonary sensory neurons. Publication: Published online before print July 16, 2010, doi: 10.1152/ajplung.00111.2010 AJP - Lung Physiol October 1, 2010 vol. 299 no. 4 L483-L492 Link: <http://ajplung.physiology.org/content/299/4/L483.full> 9. Title: Ganoderic acid T inhibits tumor invasion in vitro and in vivo through inhibition of MMP expression. Publication: Pharmacological Reports, 2010, 62, 150-163. Link: [http://www.if-pan.krakow.pl/pjp/pdf/2010/1\\_150.pdf](http://www.if-pan.krakow.pl/pjp/pdf/2010/1_150.pdf)

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