

## TNF alpha Protein, Rat, Recombinant

## General Information

Synonyms:	tumor necrosis factor;TNF- $\alpha$
Protein Construction:	A DNA sequence encoding the mature form of rat TNF $\alpha$ (P16599) (Leu 80-Leu 235) was expressed and purified, with an initial Met at the N-terminus. Predicted N terminal: Met
Species:	Rat
Expression Host:	E. coli
Accession:	P16599
Molecular Weight:	17.4 kDa (predicted); 15.9 kDa (reducing conditions)

## QC Testing

Biological Activity:	Measured in a cytotoxicity assay using L929 mouse fibrosarcoma cells in the presence of metabolic inhibitor actinomycin D. The ED50 for this effect is typically 1-6 pg/ml.
Purity:	> 93 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

## Preparation and Storage

## Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

## Stability &amp; 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.

## Shipping:

In general, Lyophilized powders are shipping with blue ice.

## Protein Background

Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the TNF superfamily, and is a multifunctional molecule involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. Two receptors, TNF-R1 (TNF receptor type 1; CD120a; p55/60) and TNF-R2 (TNF receptor type 2; CD120b; p75/80), bind to TNF-alpha. TNF-alpha protein is produced mainly by macrophages, and large amounts of this cytokine are

released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). TNF-alpha is involved in fighting against the tumorigenesis, thus, is regarded as a molecular insight in cancer treatment. TNF-alpha Protein & Antibody Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

### Reference

Hector J, et al. (2007) TNF-alpha alters visfatin and adiponectin levels in human fat. Horm Metab Res. 39(4): 250-5.  
Berthold-Losleben M, et al. (2008) The TNF-alpha System: Functional Aspects in Depression, Narcolepsy and Psychopharmacology. Curr Neuropharmacol. 6(3): 193-202.

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