

**BACKGROUND:**

Tumor Necrosis Factor alpha (TNFα) is an inflammatory cytokine secreted by macrophages, monocytes, neutrophils, T-cells, NK-cells following their stimulation by bacterial LPS. TNFα activates signals through two receptors, TNF-R1, which is expressed on most cell types, and TNF-R2, which is expressed mainly on immune cells. TNFα can have many functions including, to stimulate of phagocytosis in macrophages, to chemoattract neutrophils, to increase insulin resistance and to induce fever.

Recombinant human TNFα is a non-glycosylated protein, containing 158 amino acids and having a molecular mass of 17.5 kDa.

**Cat. No.:**  
 RP1111AF

**Alternate Names:**  
 TNFSF2, Cachectin, DIF, Necrosin, Cytotoxin, Cachexin, TNF

**AA Sequence:**

MVRSSSRTPS	DKPVAHVWAN	PQAEGLQWL
NRRANALLAN	GVELRDNQLV	VPSEGLYLIY
SQVLFKGGQC	PSTHVLLTHT	ISRIVSYQT
KVNLLSAIKS	PCQRETPEGA	EAKPWYEPIY
LGGVFQLEKG	DRLSAEINRP	DYLDFAESGQ
VYFGIIAL		

**TECHNICAL INFO**

**Source:**  
*E. coli*

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

**Formulation:**  
 10 mM sodium phosphate, pH 7.5

**Stability:**  
 Lyophilized product is very stable at -20°C. Reconstituted material should be aliquoted and frozen at -20°C. It is recommended that a carrier protein (0.1% HSA or BSA) is added for long term storage.

**Reconstitution:**  
 Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile water at 0.1 mg/mL, which can be further diluted into other aqueous solutions. Store at 4°C and avoid freezing.

**Protein Content and Purity determined by:**

- UV spectroscopy at 280 nm.
- RP-HPLC calibrated against a known standard.
- Quantitation against a known standard via reducing and non-reducing SDS-PAGE gels.

**Endotoxin Level:**  
 Endotoxin level, as measured by LAL analysis, is <0.01ng/ug or <0.1EU/ug.

**Biological Activity:**  
 The activity is measured by dose-dependent cytotoxicity of mouse L929 cells in the presence of Actinomycin D, with Bioactivity Acceptance Criteria ED50 at 2 ng/mL.

**Animal Component-Free**  
 This product is produced with no animal derived raw products. All processing and handling employs animal free equipment and animal free protocols.

