

## Analytical Data Sheet

<b>Lot number</b>	<b>9750159</b> not for drug use
<b>Item number</b>	<b>4031300</b>
<b>Catalog number</b>	<b>H-9555</b>
<b>Product</b>	<b>rec TNF-<math>\alpha</math> (human)</b>

**Description:** TNF- $\alpha$  is a pleiotropic pro-inflammatory cytokine secreted by various cells, including adipocytes, activated monocytes, macrophages, B cells, T cells and fibroblasts. It belongs to the TNF family of ligands, and signals through two receptors, TNFR1 and TNFR2. TNF- $\alpha$  is cytotoxic to a wide variety of tumor cells, and is an essential factor in mediating the immune response against bacterial infections. TNF- $\alpha$  also plays a role in the induction of septic shock, autoimmune diseases, rheumatoid arthritis, inflammation, and diabetes. Human and murine TNF- $\alpha$  demonstrate significant cross-species reactivity. TNF- $\alpha$  exists in two forms; a type II transmembrane protein, and a mature soluble protein. The TNF- $\alpha$  transmembrane protein is proteolytically cleaved to yield a soluble, biologically active, 17 kDa TNF- $\alpha$ , which forms a non-covalently linked homotrimer in solution. Recombinant Human TNF- $\alpha$  is a soluble 157 amino acid protein (17.4 kDa) which corresponds to C-terminal extracellular domain of the full length transmembrane protein.

**Sequence:** VRSSSRTPSD KPVAVHVANP QAEGQLQWLN RRANALLANG VELRDNQLVV PSEGLYLIYS QVLFKGGQCP STHVLLTHTI SRIAVSYQTK VNLLSAIKSP CQRETPEGAE AKPWYEPIYL GGVFQLEKGD RLSAEINRPD YLDFAESGQV YFGIAL

**Source:** E.coli

**Purity:**  $\geq$  98% by SDS-PAGE gel and HPLC analyses.

**Authenticity:** Verified by N-terminal and Mass Spectrometry analyses (when applicable).

**Endotoxin level:** Endotoxin level is  $<0.1$  ng /  $\mu$ g of TNF- $\alpha$  ( $<1$ EU/ $\mu$ g).

**Protein Content:** Verified by UV Spectroscopy and/or SDS-PAGE gel.

**Biological Activity:** The ED<sub>50</sub> as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D is  $\leq 0.05$  ng/ml, corresponding to a specific activity of  $\geq 2 \times 10^7$  units/mg.

**Formulation:** Sterile filtered through a 0.2 micron filter. Lyophilized from 3mM Tris, pH 8.0.

**Reconstitution:** Centrifuge vial prior to opening. Reconstitute in water to 0.1-1.0 mg/ml. **Note: Allow the reconstituted vial to sit at room temperature for 2 hours before use.** Do not vortex. Store at 2°C to 8°C for 1 week or prepare for extended storage.

**Storage/Stability:** The lyophilized protein can be stored at -20°C to -80°C until December 2019. Stored at 4°C for 12 months. Stored at room temperature for 1 month. Reconstituted form at 2°C to 8°C for 1 week.

**Extended storage:** It is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C. Avoid repeated freeze-thaw cycles.

**Usage:** For Research Use Only. Not for human use.