TNF
Recombinant Human TNF-alpha, Endotoxin Free

Catalog No.	CRT168A	**Quantity:**	10 µg
	CRT168B		50 µg
	CRT168C		1 mg
	CRT168D		100 µg

Alternate Names: Tumor necrosis factor, Cachectin, TNF-alpha, Tumor necrosis factor ligand superfamily member 2, TNF-a

Description: Recombinant human TNF-alpha protein contains 158 amino acid residues and a 16 aa His-tag. Total length is 174 aa.
Human and murine TNF-alpha show approximately 79% homology and human TNF-alpha is active on murine cells with a slightly reduced specific activity.

UniProt ID: P01375

Gene ID: 7124

Source: *Hordeum vulgare* (barley grain). Barley grain's proteolytic activity is almost 50 times less than *E. coli* or mammalian cells. Barley seed has no human or animal viral contaminants, which is ideal for stem cell culture and *in vitro* and *in vivo* biological experiments.

Molecular Weight: Predicted MW = 19.6 kD, but due to glycosylation migrates with an apparent MW = 24 kDa in SDS-PAGE.

Formulation: Lyophilized from a 0.2 µm sterile filtered solution of PBS, pH 7.2.

Purity: >95% by SDS-PAGE. Purified product carries no pyrogenic or pro-inflammatory contaminants, as assayed with monocyte activation test using custom human Multiplex Cytokine Assay measuring IL-6, TNF-alpha and IL-1beta induction.

Endotoxin Level: < 0.005 ng per µg of product (< 0.05 EU/µg) as measured by kinetic LAL assay.

Biological Activity: ED_{50} is < 0.3 ng/ml. Bioactivity was determined by its dose-dependent effects in a cytotoxicity assay using Actinomycin-D sensitized L929 cells.

Specific Activity: > 3.3×10^6 units/mg

Reconstitution: **Centrifuge vial prior to opening**. First add sterile distilled water to the vial to fully solubilize the protein to a concentration not less than 100 µg/ml. After complete solubilization of the protein, it can be further diluted to other aqueous solutions. **Please note that the addition of any carrier protein into this product may produce unwanted endotoxin. This depends upon the particular application employed.**

Storage & Stability: The lyophilized protein, though stable at room temperature for two weeks, is best stored at -20°C. Reconstituted protein should be used immediately or stored in working aliquots at -20°C. **Avoid repeated freeze-thaw cycles.**

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