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Product Data Sheet

Recombinant Human TNF-α (carrier-free)

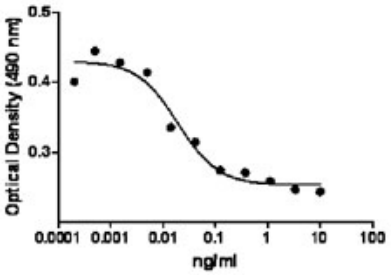
Catalog # / Size: 570102 / 10 µg
570104 / 50 µg
570106 / 100 µg
570108 / 500 µg

Source: Human TNF-α, amino acids Val77-Leu233 (Accession# NM_000594), was expressed in *E. coli.*

Molecular Mass: The 157 amino acid recombinant protein has a predicted molecular mass of 17,352 Da. The DTT-reduced protein and non-reduced protein migrate at approximately 16kDa by SDS-PAGE. The N-terminal amino acid is Val.

Purity: Purity is >98%, as determined by Coomassie stained SDS-PAGE.

Endotoxin Level: Endotoxin level is <0.1 EU/µg (<0.01ng/µg) protein as determined by the LAL method.



Human TNF-α cytotoxicity on L929 cells.

Activity: The ED_{50} is 0.020-0.050 ng/ml, corresponding to a specific activity of 5-2 $X10^7$ units/mg, as determined by a dose dependent stimulation of L929 cells treated with actinomycin D.

Preparation: 10-100µg sizes are bottled at 200µg/ml. 500µg and larger sizes are bottled at the concentration indicated on the vial.

Formulation: 0.22 µm filtered protein solution is in 10mM NaH_2PO_4, 150mM NaCl, pH 7.2.

Storage: Unopened vial can be stored at 4°C for three months, at -20°C for six months, or at -70°C for one year. For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10µg/mL in buffer containing carrier protein such as 1% BSA or HSA or 10% FBS. For long term storage, aliquot into polypropylene vials and store in a manual defrost freezer. **Avoid repeated freeze/thaw cycles.**

Applications:

Applications: Bioassay

Recommended Usage: Use when high specific biological activity is required.

Application References: 1. Chen AR, *et al.* 1985. *J. Immunol.* 135:3978.

Description: TNF-α is released from macrophages, monocytes, neutrophils, T-cells (principally $CD4^+$), NK-cells and many transformed cell lines. Soluble homotrimeric TNF-α is released from cells by proteolysis of the integral membrane precursor form of TNF-α. TNF-α binding to some TNF-α receptors induces apoptosis and depending on cell type, receptor expression, and signal transduction status can induce other responses. TNF-α is involved in the inflammatory response.

Antigen References:
1. Fitzgerald K, *et al.* Eds. 2001. The Cytokine FactsBook. Academic Press San Diego.
2. Beutler B, *et al.* 1988. *Annu. Rev. Biochem.* 57:505.
3. Beutler B, *et al.* 1989. *Annu. Rev. Immunol.* 7:625.
4. Tracey K, *et al.* 1993. *Crit. Care Med.* 21:S415.

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