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Product Data Sheet

Cat # SB-008-10	Recombinant Human Tumor Necrosis Factor alpha (TNFa)	Size: 10 ug
Cat # SB-008-50	Recombinant Human Tumor Necrosis Factor alpha (TNFa)	Size: 50 ug

Background:

TNF-alpha is a homotrimer with a subunit molecular mass of 17 kDa and that it plays a major role in growth regulation, differentiation, inflammation, viral replication, tumorigenesis, and autoimmune diseases; and in viral, bacterial, fungal, and parasitic infections. Besides inducing hemorrhagic necrosis of tumors, TNF was found to be involved in tumorigenesis, tumor metastasis, viral replication, septic shock, fever, inflammation, and autoimmune diseases including Crohn's disease, and rheumatoid arthritis as well as graft-versus-host disease.

Description:

Tumor necrosis factor alpha-1a or TNFalpha-1a is a non-glycosylated cytokine produced from *E. coli* using rDNA technology. The protein consists of three identical polypeptide chains of 158 amino acids combined to form a compact, bell-shaped homotrimer. The individual subunits have a relative molecular mass each of 17,484 Daltons. TNF alpha-1a is a potent lymphoid factor that exerts cytotoxic effects on a wide range of tumor cells and certain other target cells.

Quality Control:

Biological activity: The ED50 as determined by the cytolysis of murine L929 cells in the presence of Actinomycin D is less than 0.03ng/ml, corresponding to a Specific Activity of 3.0×10^7 IU/mg.

Purity: Greater than 95% as determined by

(a) Analysis by SEC-HPLC.

(b) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

Molecular weight: 17.3 KD \pm 10% determined by reduced SDS-PAGE.

Isoelectric Point: the main zone between 4.0~5.0 analysis by IEF.

UV scan: the maximal absorption wave is 275 \pm 3nm.

Amino-Acid Sequence: The sequence of the first fifteen N-terminal amino acids was determined and was found to be Met-Val-Arg-Ser-Ser-Ser-Arg-Thr-Pro-Ser-Asp-Lys-Pro-Val- Ala

Residual DNA: less than 10ng/mg analysis by solid phase blot.

Residual host cell protein: less than 0.1% analysis by ELISA.

Endotoxin: Less than 0.01ng/ μ g (0.01IEU/ μ g) determined by LAL test.

Formulation: Lyophilized from a 0.2 μ m filtered solution in PBS.

Storage: Lyophilized samples are stable for up to twelve months from date of receipt at -20°C to -70°C.

Please avoid freeze-thaw cycles.

Reconstitution: It is recommended to reconstitute the lyophilized TNF alpha-1a in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions

Usage:

This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals. If supplied in powder then reconstitute it in 100 ul water for 1 mg/ml stock and store in liquid at 4°C for ~1 week or aliquots in suitable size and store at -20°C for long term storage..