Recombinant Porcine Tumor Necrosis Factor

Cat. No. TNF-309P **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Porcine Tumor Necrosis Factor-a produced in*E.Coli*is a single, non-glycosylated, polypeptide chain containing 157 amino acids and having a molecular mass of 17,274 Dalton. The TNF-alpha is purified by standard chromatographic techniques.
Species	Pig
Source	E.coli
Description	Tumor necrosis factor is a cytokine involved in systemic inflammation and is a member of a group of cytokines that all stimulate the acute phase reaction. TNF is mainly secreted by macrophages. TNF causes apoptotic cell death, cellular proliferation, differentiation, inflammation, tumorigenesis and viral replication, TNF is also involved in lipid metabolism, and coagulation. TNF"s primary role is in the regulation of immune cells. Dysregulation and, in particular, overproduction of TNF have been implicated in a variety of human diseases- autoimmune diseases, insulin resistance, and cancer.
Amino Acid Sequence	The sequence of the first five N-terminal amino acids was determined and was found to be Met-Leu-Arg-Ser-Ser.
Biological Activity	The ED_{50}as determined by the cytotoxicity of porcine PK15 cells was found to be <0.008ng/ml.
Protein Content	Protein quantitation was carried out by two independent methods: 1. UV spectroscopy

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	at 280 nm using the absorbency value of 1.26 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a calibrated solution of TNF-a as a Reference Standard.
Purity	Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	The protein was lyophilized with no additives.
Solubility	It is recommended to reconstitute the lyophilized Tumor Necrosis Factor-alpha in sterile 18MΩ-cm H_2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.
Stability	Lyophilized Tumor Necrosis Factor-a although stable at room temperature for 3 weeks, should be stored desiccated below -18℃. Upon reconstitution TNF-a should be stored at 4℃ between 2-7 days and for future use below -18℃. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name	TNF tumor necrosis factor (TNF superfamily, member 2) [Sus scrofa]
Synonyms	TNF; tumor necrosis factor (TNF superfamily, member 2); TNFa; tumor necrosis factor alpha; TNF-alpha; Tumor-necrosis factor
Gene ID	397086

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mRNA Refseq	NM_214022
Protein Refseq	NP_999187
UniProt ID	P23563
Chromosome Location	7p11-q11
Pathway	Adipocytokine signaling pathway; Allograft rejection; Alzheimer"s disease; Amyotrophic lateral sclerosis (ALS); Apoptosis; Asthma; Cytokine-cytokine receptor interaction; Dilated cardiomyopathy; Fc epsilon RI signaling pathway; Graft-versus-host disease; Hematopoietic cell lineage; Hypertrophic cardiomyopathy (HCM); MAPK signaling pathway; NOD-like receptor signaling pathway; Natural killer cell mediated; RIG-I-like receptor signaling pathway; Systemic lupus erythematosus; T cell receptor signaling pathway; TGF-beta signaling pathway; Toll-like receptor signaling pathway; Type I diabetes mellitus; Type II diabetes mellitus

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