Human TNF-alpha / TNFA Protein

Catalog Number: GMP-10602-HNAE

General Information

Gene Name Synonym:
DIF; TNF-alpha; TNFA; TNFSF2

Protein Construction:
A DNA sequence encoding the human TNF-α soluble form (NP_000585.2) (Val77-Leu233) was expressed with an initial Met at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:
Measured in a cytotoxicity assay using L929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. The ED$_{50}$ for this effect is typically 5-50pg/mL. The specific activity of Recombinant Human TNF-alpha is approximately 52000 IU/μg, which is calibrated against human TNF-alpha WHO International Standard (NIBSC code:12/154).

Endotoxin:
< 0.01 EU per μg of the protein as determined by the LAL method

Stability:
Samples are stable for up to twelve months from date of receipt at -70 ºC

Predicted N terminal: Met

Molecular Mass:
The recombinant human TNF-α consists of 158 amino acids and has a predicted molecular mass of 17.5 kDa.

Formulation:
Lyophilized from sterile PBS, pH 7.4

Normally 5% - 8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:
Store it under sterile conditions at -20 ºC to -80 ºC upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:
Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:

Protein Description

Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the TNF superfamily, and is a multifunctional molecule involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. Two receptors, TNF-R1 (TNF receptor type 1; CD12a; p55/6) and TNF-R2 (TNF receptor type 2; CD12b; p75/8), bind to TNF-alpha. TNF-alpha protein is produced mainly by macrophages, and large amounts of this cytokine are released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). TNF-alpha is involved in fighting against the tumorigenesis, thus, is regarded as a molecular insight in cancer treatment.

References