

Recombinant Human TNF-alpha/TNFSF2 Protein



Carrius Biotechnology
The Protein & Enzyme Specialists

Cat. No. 111201

DESCRIPTION

Expression system	<i>E. coli</i>
Amino acid sequence	Val77-Leu233, Accession #P01375
Molecular mass	Recombinant Human TNF-alpha Protein, a non-glycosylated monomer containing 157 amino acid residues, has a predicted molecular mass of approximately 17.4 kDa.

SPECIFICATIONS

Purity	> 98% by SDS-PAGE gel and HPLC analyses.
Endotoxin	Less than 0.1 EU/μg of rHuTNF-α/TNFSF2 as determined by LAL test.
Activity	The ED ₅₀ was determined by a cytotoxicity assay using murine L929 cells is less than 0.05 ng/ml, corresponding to a specific activity of $> 2.0 \times 10^7$ units/mg in the presence of actinomycin D.
Formulation	Lyophilized from a 0.22 μm filtered solution in PB and NaCl. See CoA for details.
Reconstitution	Always centrifuge tubes before opening. Do not mix by vortex or pipetting. Reconstitute in sterile distilled water to a concentration of 0.1-1.0 mg/mL. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.

SHIPPING & STORAGE

Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature listed below.
Storage	Please use a manual defrost freezer and avoid repeated freeze-thaw cycles. ● Lyophilized protein should be stored at $\leq -20^{\circ}\text{C}$, stable for 12 months after receipt. ● Reconstituted protein solution can be stored at $2-8^{\circ}\text{C}$ for 1 month. ● Aliquots of reconstituted samples are stable at $\leq -20^{\circ}\text{C}$ for 3 months.

BACKGROUND

Human tumor necrosis factor-alpha (TNF-α, also termed cachectin) is a core pleiotropic pro-inflammatory cytokine encoded by the *TNF* gene. It is primarily synthesized and secreted by activated macrophages, CD4+ T cells, and natural killer cells. The 26 kDa transmembrane precursor is cleaved by TACE protease to release 17 kDa soluble subunits, which assemble into a functional homotrimer that binds to TNFR1/TNFR2 receptors to trigger downstream signaling. Physiologically, TNF-α mediates pathogen defense, anti-tumor immune surveillance, and tissue damage repair. Sustained overexpression of TNF-α drives chronic inflammatory cascades, and is a core pathogenic factor for rheumatoid arthritis, psoriasis, inflammatory bowel disease and sepsis. It is a well-validated therapeutic target, with multiple anti-TNF biologics approved as first-line treatments for autoimmune disorders.

Version202605.1

For research, laboratory or further evaluation purposes. NOT for Human Use.

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