

Technical Data Sheet

Recombinant human TNF-alpha protein



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Attention: Use of this product constitutes an agreement to Bio X Cell's Terms and Conditions which are included with this product in print and can also be found at <https://bioxcell.com/terms-and-conditions>.

Lot Specific Information

Lot Number: Lot Specific*

Total Protein: Lot Specific*

*This information will be noted on the certificate of analysis that ships with this product.

Shelf Life

This product has a guaranteed shelf-life of one year from the date of customer receipt when stored as recommended.

Product Website Link: <https://bioxcell.com/recombinant-human-tnf-alpha-protein-rp024>

Product Information

Catalog Number:	RP024
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.5 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in sterile-filtered water at >50 µg/ml. Once reconstituted, store in single-use aliquots to avoid freeze-thaw cycles. Store reconstituted protein at -20 °C to -80 °C for a maximum of 12 months or until the expiry date if sooner.
Sterility:	Sterile
Production:	Microbial. Expressed in E. coli
Molecular Weight:	17.3 kDa (non-covalent trimer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human TNF-alpha protein (tumor necrosis factor-alpha) is a multifunctional cytokine central to inflammation, immunity and diverse physiological processes, produced mainly by activated macrophages and other immune cells as well as endothelial cells, fibroblasts and adipocytes. TNF-alpha signals through TNF receptor 1 (TNFR1), which drives pro-inflammatory responses, apoptosis and immune cell recruitment, and TNF receptor 2 (TNFR2), which supports tissue regeneration, immune regulation and cell survival. It initiates and amplifies inflammation by inducing cytokines such as IL-1 and IL-6 and chemokines that recruit immune cells, and it modulates the activation, proliferation and differentiation of T cells, B cells and NK cells, antigen presentation and adaptive immunity, while also influencing metabolism, angiogenesis, tissue remodeling and anti-tumor responses. Because dysregulated TNF-alpha drives rheumatoid arthritis, inflammatory bowel disease and psoriasis, it is a major therapeutic target, making recombinant TNF-alpha a key reagent for inflammation and immunology research. This protein is optimized for in vivo and functional applications: low-endotoxin, tag-free, and carrier-free, supporting reproducible performance in demanding preclinical and bioactivity studies. Species reactivity: human. Species similarity: mouse - 78%, rat - 78%, bovine - 79%, porcine - 86%.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**

It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at <https://bioxcell.com/faqs>.

Store lyophilized protein between -20 °C and -80 °C until the date of expiry. Avoid freeze-thaw cycles

Bio X Cell, LLC

Conditions: For research use only. Not for use in diagnostic or therapeutic procedures.

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