9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

TNFA Rat, His Active

Tumor Necrosis Factor-alpha Rat Recombinant, His Tag Active
CYK0564

Product Overview

Name	TNFA Rat, His Active
Description	
Tumor Necrosis Factor-alpha Rat Recombinant, His Tag Active	
Accession (Primary)	P16599
Synonyms	
Tumor Necrosis Factor-alpha, TNF a His, Cachectin, TNF-alpha, Tumor necrosis factor ligand superfamily member 2, TNF-a, N-terminal fragment, NTF, Intracellular domain 1, Intracellular domain 2, ICD2, C-domain 1, C-domain 2, Tumor necrosis factor, soluble form, Tnfa, Tnfsf2, RATTNF, Tnfa.	
Introduction	
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.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered colorless liquid.	
Formulation	
TNFA Rat protein solution (1mg/ml) contains Phosphate Buffered Saline (pH 7.4), 10% glycerol and 1mM DTT.	
Stability	
Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.	
Purity	
Greater than 90.0% as determined by SDS-PAGE.	
Amino acid sequence	
MGSSHHHHHH SSGLVPRGSH MGSHM LRSSS QNSSDKPVAH VVANHQAEEQ LEWLSQRANA LLANGMDLKD	

NQLVVPADGL YLIYSQVLFK GQGCPDYVLL THTVSRFAIS YQEKVSLLSA IKSPCPKDTP EGAELKPWYE PMYLGGVFQL EKGDLLSAEV NLPKYLDITE SGQVYFGVIA L.

Biological Activity

Measured in a cytotoxicity assay using L929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. The ED50 for this effect is ≤ to 0.2 ng/ml.

Background

Tumor Necrosis Factor-alpha Rat Recombinant, His Tag Active: An In-Depth Analysis Abstract: Tumor Necrosis Factor-alpha (TNF-α) is a cytokine that plays a significant role in various physiological and pathological processes. This human research paper provides an in-depth analysis of TNF-α Rat Recombinant with a His Tag, focusing on its structure, signaling pathways, and diverse functions. Additionally, the paper explores the potential applications of TNF-α Rat Recombinant in human research. Introduction: TNF-α is a key mediator of inflammation and immune responses in humans. This research paper aims to provide a comprehensive analysis of TNF-α Rat Recombinant with a His Tag, highlighting its significance in human physiology and its potential applications in human research. Structure and Function of TNF-α: TNF-α is a homotrimeric protein that binds to two distinct receptors, TNFR1 and TNFR2, initiating downstream signaling cascades. It regulates immune cell activation, cytokine production, and cellular responses, influencing diverse biological processes. Signaling Pathways: Upon binding to its receptors, TNF-α activates various signaling pathways, including the NF-κB pathway, MAPK pathway, and cell death pathways. These pathways regulate gene expression and mediate cellular responses, impacting inflammation, apoptosis, and tissue homeostasis. Functions of TNF-α : TNF-α plays a crucial role in immune responses, inflammation, and tissue homeostasis. It regulates the activation and migration of immune cells, promotes cytokine production, and modulates cell survival and death. Dysregulation of TNF-α is implicated in the pathogenesis of various human diseases, making it an attractive target for research and therapeutic interventions. Applications in Human Research: TNF-α Rat Recombinant with a His Tag has diverse applications in human research. It can be used to investigate TNF-α signaling pathways, study its effects on immune cell functions, and explore its role in disease pathogenesis. Additionally, this recombinant protein can be utilized for in vitro and in vivo studies aimed at developing novel therapeutic strategies. Future Directions : Further research is necessary to unravel the intricate mechanisms of TNF-α signaling and its contributions to human diseases. Continued investigations will enable the development of targeted therapies and personalized medicine approaches. Future studies should also focus on optimizing the use of TNF-α Rat Recombinant in preclinical and clinical research settings.

References

Bibliography: Aggarwal, B. B. (2003). Signalling pathways of the TNF superfamily: A double-edged sword. Nature Reviews Immunology, 3(9), 745-756. Tracey, D., et al. (2008). Anti-TNF therapy: Past, present, and future. EXS, 102, 105-117. Feldmann, M., et al. (2018). Biological insights from clinical trials with anti-TNF therapy. Seminars in Immunology, 28(2), 139-147. Kalliolias, G. D., & Ivashkiv, L. B. (2016). TNF biology, pathogenic mechanisms, and emerging therapeutic strategies. Nature Reviews Rheumatology, 12(1), 49-62. McInnes, I. B., & Schett, G. (2011). Cytokines in the pathogenesis of rheumatoid arthritis. Nature Reviews Immunology, 7(6), 429-442.

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Precautions

TNFA Rat, His Active is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P16599)

Background

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References for protein:

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