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

M CSF Mouse

Macrophage-Colony Stimulating Factor Mouse Recombinant
GRF0253

Product Overview

Name	M CSF Mouse
Description	
Macrophage-Colony Stimulating Factor Mouse Recombinant	
Accession (Primary)	P07141
Synonyms	
CSF-1, Lanimostim, MCSF, M-CSF.	
Introduction	
Granulocyte/Macrophage Colony-Stimulating Factors are cytokines that act in hematopoiesis by controlling the production, differentiation, and function of 2 related white cell populations of the blood, the granulocytes and the monocytes-macrophages. CSF-1 induces cells of the monocyte/macrophage lineage. It plays a role in immunological defenses, bone metabolism, lipoproteins clearance, fertility and pregnancy.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
The protein was lyophilized from a sterile (0.2 µm) filtered solution containing 10mM sodium phosphate, 50mM sodium chloride, pH 7.5.	
Stability	
Lyophilized M-CSF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution MCSF should be stored at 4°C between 2-7 days and for future use below -18°C. Please prevent freeze-thaw cycles.	
Purity	
Greater than 95.0% as determined by SDS-PAGE.	
Amino acid sequence	
MKEVSEHCSH MIGNGHLKVL QQLIDSQMET SCQIAFEFVD QEQLDDPVCY LKKAFFLVQD IIDETMRFKD NTPNANATER LQELSNNLNS CFTKDYEEQN KACVRTFHET PLQLLEKIKN FFNETKNLLE KDWNIFTKNC NNSFAKCSSR DVVTKP.	

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Biological Activity

The ED 50 , as calculated by the dose-dependant stimulation of the proliferation of murine M-NFS-60 indicator cells is 1.33ng/ml corresponding to a specific activity of 7.5x10 5 units/mg.

Solubility

It is recommended to reconstitute the lyophilized M-CSF in sterile 18MΩ-cm H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Background

Macrophage-Colony Stimulating Factor Mouse Recombinant: An In-Depth Analysis Abstract : Macrophage-Colony Stimulating Factor (M-CSF) is a crucial cytokine involved in the regulation of macrophage biology, including their differentiation, survival, and function. This research paper provides an in-depth analysis of M-CSF Mouse Recombinant, focusing on its structure, signaling pathways, and diverse functions in the context of human research. Additionally, the paper explores the therapeutic potential of M-CSF modulation in various diseases. Introduction : M-CSF plays a vital role in the development and maintenance of macrophages, key immune cells involved in innate immunity and tissue homeostasis. This paper aims to provide a comprehensive analysis of M-CSF Mouse Recombinant, highlighting its importance in human macrophage biology and its potential therapeutic applications. Structure and Function of M-CSF : M-CSF is a homodimeric protein that binds to its receptor, CSF-1R, leading to the activation of downstream signaling pathways. It regulates the proliferation, survival, and activation of macrophages, influencing immune responses and tissue remodeling processes. Signaling Pathways : Upon binding to CSF-1R, M-CSF triggers various intracellular signaling pathways, including the MAPK pathway, PI3K/Akt pathway, and JAK/STAT pathway. These pathways regulate gene expression and mediate cellular responses, impacting macrophage functions. Role in Macrophage Development and Function : M-CSF is essential for the differentiation and maturation of macrophages from hematopoietic progenitor cells. It promotes the survival, proliferation, and activation of macrophages, enhancing their phagocytic activity, cytokine production, and antigen presentation capabilities. Therapeutic Potential : Given its crucial role in macrophage biology, M-CSF modulation has emerged as a potential therapeutic strategy. M-CSF inhibitors and CSF-1R antagonists have shown promise in the treatment of inflammatory and autoimmune diseases, as well as certain cancers. Targeting M-CSF signaling can modulate immune responses and affect disease progression. Clinical Applications and Future Directions: The therapeutic potential of M-CSF modulation is being explored in various clinical settings. Clinical trials investigating M-CSF inhibitors as monotherapy or combination therapy are underway in diseases such as rheumatoid arthritis and cancer. Future research should focus on understanding the intricate mechanisms of M-CSF signaling, optimizing therapeutic strategies, and developing personalized treatment approaches.

Precautions

M CSF Mouse is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P07141)

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