

M CSF Human

Macrophage-Colony Stimulating Factor Human Recombinant

GRF0249

Product Overview

Name	M CSF Human
Accession(Primary)	P09603
Description	Macrophage-Colony Stimulating Factor Human Recombinant

Target information (P09603)

Gene Name

About Gene Symbol

CSF1 (Colony Stimulating Factor 1) is a protein kinase and signaling regulator involved in cell signaling and proliferation. It is an important research target in cancer, cell signaling, and therapeutic target research and is widely studied to elucidate cellular mechanisms and identify therapeutic targets.

Background

M-CSF (Macrophage-Colony Stimulating Factor) Human Recombinant: Unraveling Its Role in Macrophage Biology and Beyond Abstract: M-CSF (Macrophage-Colony Stimulating Factor), also known as Lanimostim, MCSF, or MGC31930, is a crucial growth factor that regulates the development, proliferation, and function of macrophages. This research paper aims to provide a comprehensive analysis of the molecular characteristics, signaling pathways, and diverse physiological functions of M-CSF. Additionally, it explores the therapeutic implications of M-CSF in various diseases and disorders. Synonyms such as Lanimostim, MCSF, and MGC31930 associated with the protein are discussed throughout the paper to highlight their relevance in scientific literature. Introduction: M-CSF, also known

as Lanimostim, MCSF, or MGC31930, is a growth factor that plays a critical role in the regulation of macrophage biology. This section introduces M-CSF and its synonyms, highlighting their significance and relevance in scientific research.

Molecular Characteristics of M-CSF: This section explores the molecular characteristics of M-CSF, including its primary amino acid sequence, protein structure, and post-translational modifications. The importance of these factors in determining M-CSF's biological activity and receptor binding is discussed.

Signaling Pathways Activated by M-CSF: M-CSF activates specific signaling pathways upon binding to its receptor, leading to diverse cellular responses. This section focuses on the activation of the MAPK/ERK and PI3K/Akt pathways. The downstream effectors and transcriptional regulators involved in mediating M-CSF's cellular responses are also discussed.

Physiological Functions of M-CSF: M-CSF plays critical roles in various physiological processes, particularly in macrophage development, survival, polarization, and immune regulation. This section provides an in-depth analysis of M-CSF's contributions to these processes, emphasizing its role in hematopoiesis, tissue homeostasis, wound healing, and host defense.

Therapeutic Implications of M-CSF: The unique properties of M-CSF make it a promising therapeutic candidate for various diseases and disorders. This section discusses the potential applications of M-CSF in immunotherapy, tissue regeneration, cancer treatment, and autoimmune diseases. The challenges and future directions in utilizing M-CSF as a therapeutic agent are also explored.

M-CSF in Disease Pathogenesis: M-CSF dysregulation is implicated in the pathogenesis of several diseases, including cancer, inflammation, and bone disorders. This section examines the role of M-CSF in promoting tumor progression, macrophage-mediated inflammation, osteoclast differentiation, and metabolic diseases. The therapeutic implications and targeting of M-CSF in disease management are also discussed.

Conclusion: M-CSF, also known as Lanimostim, MCSF, or MGC31930, is a critical growth factor involved in macrophage biology and disease pathogenesis. Understanding the molecular characteristics, signaling pathways, and physiological functions of M-CSF contributes to the exploration of its therapeutic potential in various disorders.

References for protein:

1. Title :Osteoclasts Control Osteoblast Chemotaxis via PDGF-BB/PDGF Receptor Beta Signaling. Publication :Sanchez-Fernandez MA, Gallois A, Riedl T, Jurdic P, Hoflack B (2008) Osteoclasts Control Osteoblast Chemotaxis via PDGF-BB/PDGF Receptor Beta Signaling. PLoS ONE 3(10): e3537. doi:10.1371/journal.pone.0003537. Link : M CSF prospec publication
2. Title :Suppressor of cytokine signalling-3 at pathological levels does not regulate lipopolysaccharide or interleukin-10 control of tumour necrosis factor- α production by human monocytes. Publication :Article first published online: 11 MAY 2006 DOI: 10.1111/j.1365-2567.2006.02383.x Link : M CSF Human prospec publication