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

CSF2RA Human, sf9

GM-CSF Receptor Alpha Sf9 Human Recombinant
GRF0016

Product Overview

Name	CSF2RA Human, sf9
Description	
GM-CSF Receptor Alpha Sf9 Human Recombinant	
Accession (Primary)	P15509
Synonyms	
Colony Stimulating Factor 2 Receptor Alpha Subunit, Colony Stimulating Factor 2 Receptor, Alpha, Low-Affinity (Granulocyte-Macrophage), Alpha-GM-CSF Receptor, GM-CSF-R-Alpha, CD116 Antigen, GMCSFR-Alpha, GMR-Alpha, CDw116, CSF2RY, CSF2R, Granulocyte-Macrophage Colony-Stimulating Factor Receptor Subunit Alpha, Granulocyte-Macrophage Colony-Stimulating Factor Receptor Alpha Chain, GM-CSF Receptor Alpha Subunit, AlphaGMR, CSF2RAX, CSF2RAY, CSF2RX, GMCSFR, CD116, SMDP4, GMR.	
Introduction	
GM-CSF Receptor Alpha (CSF2RA) is the alpha subunit of the heterodimeric receptor for colony stimulating factor 2, a cytokine which controls the production, differentiation, and function of granulocytes and macrophages. CSFR2 is also a member of the cytokine family of receptors. In addition, this gene is found in the pseudoautosomal region (PAR) of the X and Y chromosomes. Multiple transcript variants encoding various isoforms have been found for this gene, while some of the isoforms being membrane-bound and others being soluble. Diseases associated with CSF2RA include surfactant metabolism dysfunction, pulmonary 4, and csf2ra-related pulmonary surfactant metabolism dysfunction.	
Source	
Sf9, Baculovirus cells.	
Physical Appearance	
Sterile Filtered colorless solution.	
Formulation	
CSF2RA protein solution (0.5mg/ml) contains Phosphate Buffered Saline (pH 7.4) and 10% glycerol.	
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.	

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Amino acid sequence

ADP LIPEKSD LRTVAPASSL NVRFDSRTMN LSWDCQENTT FSKCFLTDKK NRVVEPRLSN NECSCTFREI CLHEGVTFEV HVNTSQRGFQ QKLLYPNSGR EGTAAQNFSC FIYNADLMNC TWARGPTAPR DVQYFLYIRN SKRRREIRCP YYIQDSGTHV GCHLDNLSGL TSRNYFLVNG TSREIGIQFF DSLLDTKKIE RFNPPSNVTV RCNTTHCLVR WKQPRTYQKL SYLDFQYQLD VHRKNTQPGT ENLLINVSGD LENRYNFPSS EPRAKHSVKI RAADVRILNW SSWSEAIEFG SDDG HHHHHH

Biological Activity

Measured by its ability to inhibit GM-CSF dependent proliferation of TF1 human erythroleukemic cells. The ED50 for this effect is less or equal to 10ug/ml in the presence of 0.5ng/ml GM-CSF.

Background

GM-CSF Receptor Alpha Human Recombinant: A Glimpse into Its Potential and Implications Abstract: Granulocyte-Macrophage Colony Stimulating Factor (GM-CSF) receptor alpha, a pivotal component in the GM-CSF signaling pathway, has been the focal point of numerous studies pertaining to hematopoiesis and immune responses. This paper provides an overview of the GM-CSF receptor alpha human recombinant, exploring its characteristics, production techniques, and potential therapeutic applications. Introduction GM-CSF, a cytokine responsible for the differentiation and proliferation of white blood cells, functions by binding to its receptor, GM-CSF receptor. The alpha subunit (GM-CSFRα) of this receptor plays a crucial role in ligand binding and is essential for initiating cellular responses. Modern biotechnological advancements have led to the successful production of its human recombinant form, offering new avenues in medical research. Recombinant GM-CSFRα: Production and Features Recombinant GM-CSFRα is synthesized using cutting-edge recombinant DNA technologies, predominantly in bacterial or mammalian expression systems. This human recombinant form retains its ability to bind to GM-CSF, maintaining its biological functionality and providing myriad research opportunities. Therapeutic and Clinical Prospects Autoimmune Diseases: GM-CSF is often overexpressed in various autoimmune disorders. By utilizing recombinant GM-CSFRα as a potential decoy receptor, it's feasible to mitigate the effects of excessive GM-CSF, offering a new therapeutic strategy. Hematopoietic Disorders: Given its integral role in white blood cell development, recombinant GM-CSFRα might hold promise in treatments or as a diagnostic tool for certain hematological conditions. Research Paradigm: Beyond therapeutic applications, the recombinant GM-CSFRα can serve as an invaluable research tool to elucidate the nuances of GM-CSF signaling, aiding in the understanding of immune response mechanisms. Conclusion: GM-CSF receptor alpha human recombinant stands at the forefront of exciting research and therapeutic potential. While its full capabilities are yet to be realized, current insights underscore its significance in the realms of immunology and medicine.

References

Bibliography Burgess, A. W., & Metcalf, D. (1980). The nature and action of granulocyte-macrophage colony-stimulating factors. Blood , 56(6), 947-958. Hamilton, J. A. (2008). GM-CSF in inflammation and autoimmunity. Trends in Immunology , 23(8), 403-408. Hercus, T. R., et al. (2009). The granulocyte-macrophage colony-stimulating factor receptor: Linking its structure to cell signaling. Blood , 114(7), 1289-1298. Lehtonen, A., Matikainen, S., & Julkunen, I.

(2002). Interferons up-regulate STAT1, STAT2, and IRF family transcription factor gene expression in human peripheral blood mononuclear cells and macrophages. Journal of Immunology , 169(1), 358-368.

Precautions

CSF2RA Human, sf9 is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P15509)

Background

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References for protein:

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