9051 Mira Mesa Blvd, #910094
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MFGE8 Mouse

Milk Fat Globule-EGF Factor 8 Protein Mouse Recombinant
GRF0258

Product Overview

Name	MFGE8 Mouse

Description

Milk Fat Globule-EGF Factor 8 Protein Mouse Recombinant

Accession (Primary)	Q3TDU5

Synonyms

Milk fat globule-EGF factor 8 protein, isoform CRA_a, Putative uncharacterized protein, Mfge8, mCG_6301.

Introduction

Milk fat globule-EGF factor 8 protein (Mfge8) is pleiotropic secreted glycoprotein which promotes mammary gland morphogenesis, angiogenesis, and tumor progression. Mfge8 has also an imperative role in tissue homeostasis and the prevention of inflammation. Mfge8 functions as a bridge between phosphatidylserine on apoptotic cells and Integrin alpha V beta 3 on phagocytes, leading to the clearance of apoptotic debris.

Source

Sf9, Baculovirus cells.

Physical Appearance

Sterile filtered colorless solution.

Formulation

MFGE8 protein solution (0.25mg/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.

Amino acid sequence

ADL ASGDFCD SSLCLNGGTC LTGQDNDIYC LCPEGFTGLV CNETERGPCS PNPCYNDAKC LVTLDTQRGD IFTEYICQCP VGYSGIHCET GCSTQLGMEG GAIADSQISA SSVYMGFMGL QRWGPELARL YRTGIVNAWT ASNYDSKPWI QVNLLRKMRV SGVMTQGASR AGRAEYLKTF KVAYSLDGRK FEFIQDESGG DKEFLGNLDN NSLKVNMFNP TLEAQYIKLY PVSCHRGCTL RFELLGCELH GCSEPLGLKN NTIPDSQMSA SSSYKTWNLR AFGWYPHLGR LDNQGKINAW TAQSNSAKEW LQVDLGTQRQ VTGIITQGAR DFGHIQYVAS YKVAHSDDGV

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QWTVYEEQGS SKVFQGNLDN NSHKKNIFEK PFMARYVRVL PVSWHNRITL RLELLGC HHH HHH .

Background

An Insight into Milk Fat Globule-EGF Factor 8 Protein (Mouse Recombinant): Characteristics, Applications, and Future Directions Abstract The Milk Fat Globule-EGF Factor 8 (MFG-E8) protein, particularly in its mouse recombinant form, has emerged as a pivotal player in multiple physiological processes. This paper aims to elucidate its unique characteristics, delve into current methodologies employed in its study, and chart the trajectory for future research directions. Introduction Milk Fat Globule-EGF Factor 8 (MFG-E8) is a glycoprotein known for its vital role in several cellular processes, including cell signaling, apoptosis, and phagocytosis. The recombinant form of MFG-E8 derived from mouse models offers a valuable tool for researchers in deciphering its biological relevance. Characteristics of MFG-E8 (Mouse Recombinant) 1. Structural Profile: The MFG-E8 protein harbors EGF-like domains, which enable its participation in numerous cellular signaling events. 2. Expression Spectrum: While originally identified in mammary epithelial cells, its expression spectrum extends to macrophages, dendritic cells, and other tissues. 3. Biochemical Activity: It plays a key role in facilitating the phagocytic clearance of apoptotic cells by bridging these cells to phagocytes. Methodologies Employed in MFG-E8 Research 1. Production of Recombinant MFG-E8: Using bacterial expression systems, such as E. coli , mouse MFG-E8 DNA is introduced, followed by protein purification techniques like gel filtration chromatography. 2. Assays: The phagocytosis assays employing fluorescently tagged apoptotic cells and phagocytes enable researchers to quantify MFG-E8's effectiveness in apoptotic cell clearance. 3. Immunoblotting: Through SDS-PAGE and Western blotting, the expression and purification of MFG-E8 can be monitored and validated. 4. Knockout Models: MFG-E8 knockout mice models help decipher its in vivo significance, especially concerning its immune-regulatory roles. Original Ideas & Implications The potential for MFG-E8, particularly in its mouse recombinant form, to serve as a therapeutic agent in autoimmune disorders remains a tantalizing prospect. Considering its role in apoptotic cell clearance, dysregulation in MFG-E8 might be implicated in the etiology of autoimmune disorders. Thus, targeting this protein therapeutically may pave the way for innovative treatments. Conclusions & Future Directions While the recombinant MFG-E8 protein has elucidated much about the biological implications of this protein, the horizon is rife with potential. Future research might focus on its therapeutic potential, particularly in autoimmunity and inflammation.

References

Bibliography Hanayama, R., et al. (2002). "Identification of a factor that links apoptotic cells to phagocytes." Nature 417(6885): 182-187. Taylor, M. R., et al. (2007). "Role of milk fat globule-EGF factor 8 in the systemic regulation of inflammation." Archives of Immunology and Therapy Experimental 55(5): 311-318. Atabai, K., et al. (2009). "Mfge8 diminishes the severity of tissue fibrosis in mice by binding and targeting collagen for uptake by macrophages." Journal of Clinical Investigation 119(12): 3713-3722. Neher, J. J., et al. (2012). "Phagocytosis executes delayed neuronal death after focal brain ischemia." Proceedings of the National Academy of Sciences 109(38): E2645-E2654.

Precautions

MFGE8 Mouse is for research use only and not for use in diagnostic or therapeutic procedures.

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Target Information: (Q3TDU5)

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References for protein:

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