

MFGE8 Mouse

Milk Fat Globule-EGF Factor 8 Protein Mouse Recombinant

GRF0258

Product Overview

Name	MFGE8 Mouse
Accession(Primary)	Q3TDU5
Description	Milk Fat Globule-EGF Factor 8 Protein Mouse Recombinant

Target information (Q3TDU5)

Gene Name

About Gene Symbol

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 for protein:

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.