

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MFG-E8 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG _{2A} Clone # 278918
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human MFG-E8 Leu24-Cys387 Accession # Q08431
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

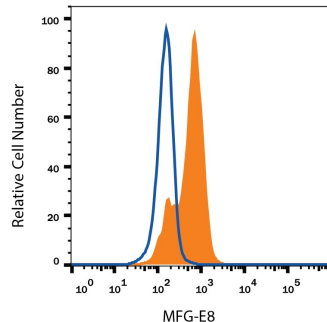
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human MFG-E8 (Catalog # 2767-MF) under non-reducing conditions only
Intracellular Staining by Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

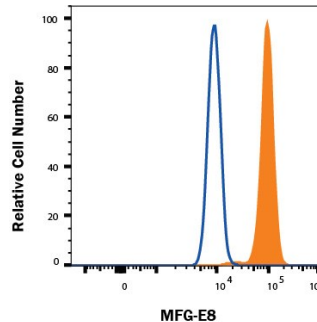
DATA

Intracellular Staining by Flow Cytometry



Detection of MFG-E8 in Human Immature Dendritic Cells by Flow Cytometry. Human immature dendritic cells were stained with Mouse Anti-Human MFG-E8 Monoclonal Antibody (Catalog # MAB27671, filled histogram) or isotype control antibody (Catalog # [MAB003](#), open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # [F0102B](#)). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # [FC004](#)) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # [FC005](#)). View our protocol for [Staining Intracellular Molecules](#).

Intracellular Staining by Flow Cytometry



Detection of MFG-E8 in TF-1 cells by Flow Cytometry. TF-1 cells were stained with Mouse Anti-Human MFG-E8 Monoclonal Antibody (Catalog # MAB27671, filled histogram) or isotype control antibody (Catalog # [MAB003](#), open histogram), followed by Fluorescein-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # [F0103B](#)). To facilitate intracellular staining, cells were fixed with FC012 and permeabilized with FoxP3 Perm. View our protocol for [Staining Intracellular Molecules](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Milk Fat Globulin Protein E8 (MFG-E8), also known as Lactadherin, MP47, breast epithelial antigen BA46, and SED1, is a 66-75 kDa pleiotropic secreted glycoprotein that promotes mammary gland morphogenesis, angiogenesis, and tumor progression. MFG-E8 also plays an important role in tissue homeostasis and the prevention of inflammation (1). Human MFG-E8 contains one N-terminal EGF-like domain and two C-terminal F5/8-type discoidin-like domains (2). It shares 63% and 61% aa sequence identity with comparable regions of mouse and rat MFG-E8, respectively. Shorter isoforms of human MFG-E8 may have N-terminal deletions (beginning near the end of the first discoidin-like domain), internal deletions (lacking either the EGF-like domain or the central region of the second discoidin-like domain), or C-terminal deletions (truncated within the second discoidin-like domain) (3). A 50 aa internal proteolytic fragment of human MFG-E8 (known as Medin) is a major component of aortic medial amyloid deposits (4). MFG-E8 is released into the milk in complex with lipid-containing milk fat globules. It is also found in multiple other cell types including endothelial cells and smooth muscle cells of the vasculature, immature dendritic cells, at the acrosomal cap of testicular and epididymal sperm, and in epithelial cells of the endometrium (1). MFG-E8 binds to the Integrins $\alpha V\beta 3$ and $\alpha V\beta 5$ and potentiates the angiogenic action of VEGF through VEGF R2 (5, 6). It reduces inflammation and tissue damage in a variety of settings. MFG-E8 functions as a bridge between phosphatidylserine on apoptotic cells and Integrin $\alpha V\beta 3$ on phagocytes, leading to the clearance of apoptotic debris (7). It mediates the engulfment of apoptotic bodies in atherosclerotic plaques and prion-infected brain (8, 9) and of apoptotic B cells during germinal center reactions (10, 11). MFG-E8 also promotes the removal of excess Collagen in fibrotic lungs and the regeneration of damaged intestinal epithelia (12, 13). Its tissue-protective role impairs anti-tumor immunity and chemotherapy-induced apoptosis (14). MFG-E8 in the breastmilk blocks rotavirus infection in nursing babies (15).

References:

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