SANTA CRUZ BIOTECHNOLOGY, INC.

MFG-E8 (F-5): sc-271574

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Human milk-fat globule (MFG) is abundant in human breast milk and is composed of secreted lipids encapsulated by plasma membranes from the epithelial cells of mammary glands. MFG membranes are composed of various glycoproteins that serve as markers for differentiated carcinomas. MFG-E8 (milk fat globule-EGF factor 8), also known as Lactadherin or BA46, is a 387 amino acid peripheral membrane protein that localizes to the membrane of a variety of tissues, including mammary epithelial surfaces, and contains one EGF-like domain and two F5/8 type C domains. Functioning as a specific ligand for Integrin β5 and Integrin β3, MFG-E8 is thought to be involved in gamete interactions and cell attachment, possibly playing a role in fertilization and apoptosis. Additionally, MFG-E8 binds to rotavirus and inhibits its replication, thereby protecting the cell from viral infection. Overexpression of MFG-E8 is associated with breast cancer, suggesting that MFG-E8 may be related to tumorigenesis.

REFERENCES

1. Newburg, D.S., et al. 1998. Role of human-milk lactadherin in protection against symptomatic rotavirus infection. Lancet 351: 1160-1164.
2. Peterson, J.A., et al. 1998. Milk fat globule glycoproteins in human milk and in gastric aspirates of mother's milk-fed preterm infants. Pediatr. Res. 44: 499-506.
3. Oshima, K., et al. 2002. Secretion of a peripheral membrane protein, MFG-E8, as a complex with membrane vesicles. Eur. J. Biochem. 269: 1209-1218.

CHROMOSOMAL LOCATION

Genetic locus: MFGE8 (human) mapping to 15q26.1; Mfge8 (mouse) mapping to 7 D3.

SOURCE

MFG-E8 (F-5) is a mouse monoclonal antibody raised against amino acids 325-384 mapping near the C-terminus of MFG-E8 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MFG-E8 (F-5) is available conjugated to agarose (sc-271574 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271574 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271574 PE), fluorescein (sc-271574 FITC), Alexa Fluor® 488 (sc-271574 AF488), Alexa Fluor® 546 (sc-271574 AF546), Alexa Fluor® 594 (sc-271574 AF594) or Alexa Fluor® 647 (sc-271574 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271574 AF680) or Alexa Fluor® 790 (sc-271574 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

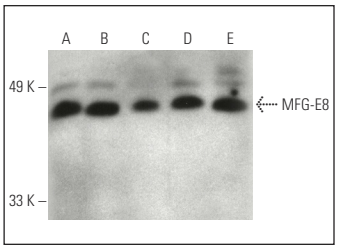
MFG-E8 (F-5) is recommended for detection of MFG-E8 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MFG-E8 siRNA (h): sc-43158, MFG-E8 siRNA (m): sc-43159, MFG-E8 siRNA (r): sc-61893, MFG-E8 shRNA Plasmid (h): sc-43158-SH, MFG-E8 shRNA Plasmid (m): sc-43159-SH, MFG-E8 shRNA Plasmid (r): sc-61893-SH, MFG-E8 shRNA (h) Lentiviral Particles: sc-43158-V, MFG-E8 shRNA (m) Lentiviral Particles: sc-43159-V and MFG-E8 shRNA (r) Lentiviral Particles: sc-61893-V.

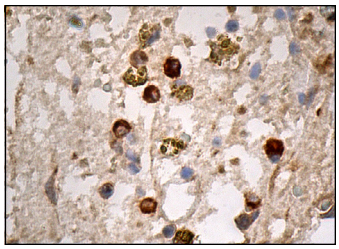
Molecular Weight of MFG-E8: 46 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

DATA



MFG-E8 (F-5) HRP: sc-271574 HRP. Direct western blot analysis of MFG-E8 expression in MIA PaCa-2 (**A**), RPE-J (**B**), A549 (**C**), MCF7 (**D**) and HeLa (**E**) whole cell lysates.



MFG-E8 (F-5): sc-271574. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of subset of hematopoietic cells.

SELECT PRODUCT CITATIONS

1. Dismuke, W.M., et al. 2016. Mechanism of Fibronectin binding to human trabecular meshwork exosomes and its modulation by dexamethasone. PLoS ONE 11: e0165326.
2. Shi, Z., et al. 2020. Extracellular vesicles produced by bone marrow mesenchymal stem cells attenuate renal fibrosis, in part by inhibiting the RhoA/ROCK pathway, in a UUO rat model. Stem Cell Res. Ther. 11: 253.
3. Molenaar, B., et al. 2021. Single-cell transcriptomics following ischemic injury identifies a role for B2M in cardiac repair. Commun. Biol. 4: 146.
4. Martínez-Greene, J.A., et al. 2023. Isolation of hepatic and adipose-tissue-derived extracellular vesicles using density gradient separation and size exclusion chromatography. Int. J. Mol. Sci. 24: 12704.
5. Ma, Z., et al. 2024. Extracellular vesicles containing MFGE8 from colorectal cancer facilitate macrophage efferocytosis. Cell Commun. Signal. 22: 295.

RESEARCH USE

For research use only, not for use in diagnostic procedures.