

MDGI (G-4): sc-514208

BACKGROUND

Fatty acid-binding proteins, designated FABPs, are a family of homologous cytoplasmic proteins that are expressed in a highly tissue-specific manner and play an integral role in the balance between lipid and carbohydrate metabolism. FABPs mediate fatty acid (FA) and/or hydrophobic ligand uptake, transport and targeting within their respective tissues. The mechanisms underlying these actions can give rise to both passive diffusional uptake and protein-mediated transmembrane transport of FAs. FABPs are expressed in adipocytes (A-FABP), brain (B-FABP), epidermis (E-FABP, also designated psoriasis-associated FABP or PA-FABP), muscle and heart (H-FABP, also designated mammary-derived growth inhibitor or MDGI), intestine (I-FABP), liver (L-FABP), myelin (M-FABP) and testis (T-FABP). MDGI is highly expressed in the myocardium, skeletal and smooth muscle fibers, lipid and/or steroid synthesizing cells and terminally differentiated epithelia of the respiratory, intestinal and urogenital tracts.

REFERENCES

1. Veerkamp, J.H. and Maatman, R.G. 1995. Cytoplasmic fatty acid-binding proteins: their structure and genes. *Prog. Lipid Res.* 34: 17-52.
2. Zschiesche, W., et al. 1995. Histochemical localization of heart-type fatty acid binding protein in human and murine tissues. *Histochem. Cell Biol.* 103: 147-156.

CHROMOSOMAL LOCATION

Genetic locus: FABP3 (human) mapping to 1p35.2; Fabp3 (mouse) mapping to 4 D2.2.

SOURCE

MDGI (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 21-38 near the N-terminus of MDGI of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MDGI (G-4) is available conjugated to agarose (sc-514208 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514208 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514208 PE), fluorescein (sc-514208 FITC), Alexa Fluor[®] 488 (sc-514208 AF488), Alexa Fluor[®] 546 (sc-514208 AF546), Alexa Fluor[®] 594 (sc-514208 AF594) or Alexa Fluor[®] 647 (sc-514208 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514208 AF680) or Alexa Fluor[®] 790 (sc-514208 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514208 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

MDGI (G-4) is recommended for detection of MDGI 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MDGI siRNA (h): sc-41245, MDGI siRNA (m): sc-41246, MDGI shRNA Plasmid (h): sc-41245-SH, MDGI shRNA Plasmid (m): sc-41246-SH, MDGI shRNA (h) Lentiviral Particles: sc-41245-V and MDGI shRNA (m) Lentiviral Particles: sc-41246-V.

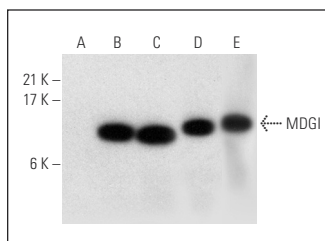
Molecular Weight of MDGI: 15 kDa.

Positive Controls: MDGI (m): 293T Lysate: sc-125591, human heart extract: sc-363763 or mouse heart extract: sc-2254.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



MDGI (G-4): sc-514208. Western blot analysis of MDGI expression in non-transfected: sc-117752 (A) and mouse MDGI transfected: sc-125591 (B) 293T whole cell lysates and mouse heart (C), human heart (D) and human skeletal muscle (E) tissue extracts.

SELECT PRODUCT CITATIONS

1. Suzuki, J. 2021. Effects of hyperbaric environment on endurance and metabolism are exposure time-dependent in well-trained mice. *Physiol. Rep.* 9: e14780.
2. Garcia, K.A., et al. 2022. Fatty acid binding protein 5 regulates lipogenesis and tumor growth in lung adenocarcinoma. *Life Sci.* 301: 120621.

RESEARCH USE

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