SANTA CRUZ BIOTECHNOLOGY, INC.

MDGI (G-4): sc-514208

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.
3. Hotamisligil, G.S., et al. 1996. Uncoupling of obesity from Insulin resistance through a targeted mutation in aP2, the adipocyte fatty acid binding protein. Science 274: 1377-1379.

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 IgG_1 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).

APPLICATIONS

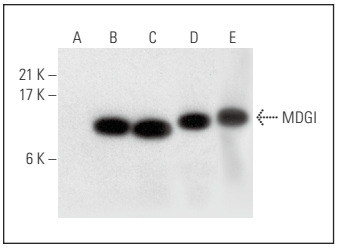
MDGI (G-4) is recommended for detection of MDGI of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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.

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.
3. Suzuki, J. 2024. Effects of exercise training with intermittent hyperoxic intervention on endurance performance and muscle metabolic properties in male mice. Physiol. Rep. 12: e16117.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.