SANTA CRUZ BIOTECHNOLOGY, INC.

MDGI (66E2): sc-58274

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.

CHROMOSOMAL LOCATION

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

SOURCE

MDGI (66E2) is a mouse monoclonal antibody raised against native full length 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.

APPLICATIONS

MDGI (66E2) is recommended for detection of MDGI of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with I-FABP or L-FABP of human origin.

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.

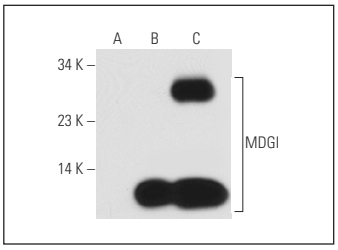
Molecular Weight of MDGI: 15 kDa.

Positive Controls: MDGI (m): 293T Lysate: sc-125591, rat heart extract: sc-2393 or mouse heart extract: sc-2254.

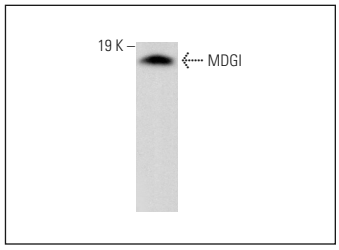
RECOMMENDED SUPPORT REAGENTS

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 (66E2): sc-58274. 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 tissue extract (**C**).



MDGI (66E2): sc-58274. Western blot analysis of MDGI expression in rat heart tissue extract. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

STORAGE

1. Fritah, A., et al. 2010. Elevated expression of the metabolic regulator receptor-interacting protein 140 results in cardiac hypertrophy and impaired cardiac function. Cardiovasc. Res. 86: 443-451.
2. Fritah, A., et al. 2012. Absence of RIP140 reveals a pathway regulating glut4-dependent glucose uptake in oxidative skeletal muscle through UCP1-mediated activation of AMPK. PLoS ONE 7: e32520.
3. Marshall, K.D., et al. 2014. Proteomic mapping of proteins released during necrosis and apoptosis from cultured neonatal cardiac myocytes. Am. J. Physiol. Cell Physiol. 306: C639-C647.
4. Ibrahim, M., et al. 2020. Transcriptional changes involved in atrophying muscles during prolonged fasting in rats. Int. J. Mol. Sci. 21: 5984.
5. Lee, S.M., et al. 2020. FABP3-mediated membrane lipid saturation alters fluidity and induces ER stress in skeletal muscle with aging. Nat. Commun. 11: 5661.

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.