

MGAT1 (H-6): sc-376079

BACKGROUND

Monoacylglycerol O-acyltransferase (MGAT) catalyzes diacylglycerol (a precursor to triacylglycerol) synthesis. MGAT is important in intestinal absorption of dietary fat because resynthesis of triacylglycerol is needed for the assembly of the lipoproteins that transport absorbed fat to tissues. MGAT1 is expressed in stomach, kidney, liver and adipose tissue but is not found in the intestine. On the contrary, MGAT2 (monoacylglycerol O-acyltransferase 2) is highly expressed in the small intestine as well as in kidney, liver, colon, stomach and white adipose tissue. MGAT 3 (monoacylglycerol O-acyltransferase 3) is highly homologous to MGAT1 and MGAT2. The expression of MGAT3 is restricted to the gastrointestinal tract, most concentrated in the ileum.

CHROMOSOMAL LOCATION

Genetic locus: MOGAT1 (human) mapping to 2q36.1; Mogat1 (mouse) mapping to 1 C4.

SOURCE

MGAT1 (H-6) is a mouse monoclonal antibody raised against amino acids 119-208 mapping within an internal region of MGAT1 of mouse 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.

MGAT1 (H-6) is available conjugated to agarose (sc-376079 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376079 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376079 PE), fluorescein (sc-376079 FITC), Alexa Fluor® 488 (sc-376079 AF488), Alexa Fluor® 546 (sc-376079 AF546), Alexa Fluor® 594 (sc-376079 AF594) or Alexa Fluor® 647 (sc-376079 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376079 AF680) or Alexa Fluor® 790 (sc-376079 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

MGAT1 (H-6) is recommended for detection of MGAT1 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 MGAT1 siRNA (h): sc-44467, MGAT1 siRNA (m): sc-44872, MGAT1 shRNA Plasmid (h): sc-44467-SH, MGAT1 shRNA Plasmid (m): sc-44872-SH, MGAT1 shRNA (h) Lentiviral Particles: sc-44467-V and MGAT1 shRNA (m) Lentiviral Particles: sc-44872-V.

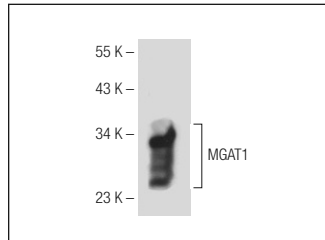
Molecular Weight of MGAT1: 33 kDa.

Positive Controls: mouse small intestine extract: sc-364252 or mouse embryonic live tissue extract.

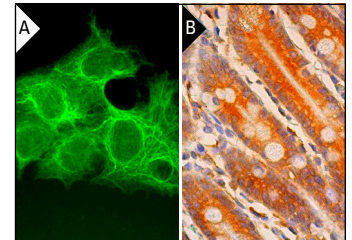
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MGAT1 (H-6): sc-376079. Western blot analysis of MGAT1 expression in mouse embryonic liver tissue extract.



MGAT1 (H-6): sc-376079. Immunofluorescence staining of formalin-fixed HepG2 cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Irunbam, K., et al. 2020. Cholestasis impairs hepatic lipid storage via AMPK and CREB signaling in hepatitis B virus surface protein transgenic mice. *Lab. Invest.* 100: 1411-1424.
2. Kalezic, A., et al. 2022. L-arginine induces white adipose tissue browning—a new pharmaceutical alternative to cold. *Pharmaceutics* 14: 1368.

STORAGE

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

PROTOCOLS

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

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