

# MBOAT4 (E-15): sc-139392

## BACKGROUND

MBOAT4 (membrane-bound O-acyltransferase domain-containing protein 4, Ghrelin O-acyltransferase) is a 435 amino acid, multi-pass membrane protein that belongs to the membrane-bound acyltransferase family. MBOAT4 functions as an enzyme that attaches an octanoate fatty acid to serine-3 of ghrelin. Ghrelin is a very small, appetite-stimulating hormone secreted by the food-deprived stomach. MBOAT4 can use a variety of fatty acids as substrates including octanoic acid, decanoic acid and tetradecanoic acid. MBOAT4 expression, consistent with its function, is mainly in the stomach and intestines. Due to its primary function, MBOAT4 is a candidate for obesity and appetite suppression studies.

## REFERENCES

- Gardiner, J. and Bloom, S. 2008. Ghrelin gets its GOAT. *Cell Metab.* 7: 193-194.
- Stahl, U., Stalberg, K., Szymne, S. and Ronne, H. 2008. A family of eukaryotic lysophospholipid acyltransferases with broad specificity. *FEBS Lett.* 582: 305-309.
- Matsuda, S., Inoue, T., Lee, H.C., Kono, N., Tanaka, F., Gengyo-Ando, K., Mitani, S. and Arai, H. 2008. Member of the membrane-bound O-acyltransferase (MBOAT) family encodes a lysophospholipid acyltransferase with broad substrate specificity. *Genes Cells* 13: 879-888.
- Shindou, H., Hishikawa, D., Harayama, T., Yuki, K. and Shimizu, T. 2008. Recent progress on acyl-CoA:lysophospholipid acyltransferase research. *J. Lipid Res.*
- González, C.R., Vázquez, M.J., López, M. and Dieguez, C. 2008. Influence of chronic undernutrition and leptin on GOAT mRNA levels in rat stomach mucosa. *J. Mol. Endocrinol.* 41: 415-421.
- Gutierrez, J.A., Solenberg, P.J., Perkins, D.R., Willency, J.A., Knierman, M.D., Jin, Z., Witcher, D.R., Luo, S., Onyia, J.E. and Hale, J.E. 2008. Ghrelin octanoylation mediated by an orphan lipid transferase. *Proc. Natl. Acad. Sci. USA* 105: 6320-6325.
- Yang, J., Zhao, T.J., Goldstein, J.L. and Brown, M.S. 2008. Inhibition of ghrelin O-acyltransferase (GOAT) by octanoylated pentapeptides. *Proc. Natl. Acad. Sci. USA* 105: 10750-10755.
- Gualillo, O., Lago, F. and Dieguez, C. 2008. Introducing GOAT: a target for obesity and anti-diabetic drugs? *Trends Pharmacol. Sci.* 29: 398-401.

## CHROMOSOMAL LOCATION

Genetic locus: *Mboat4* (mouse) mapping to 8 A4.

## SOURCE

MBOAT4 (E-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MBOAT4 of mouse origin.

## STORAGE

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

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139392 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MBOAT4 (E-15) is recommended for detection of MBOAT4 of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with MBOAT1, MBOAT2 or MBOAT5.

Suitable for use as control antibody for MBOAT4 siRNA (m): sc-149309, MBOAT4 shRNA Plasmid (m): sc-149309-SH and MBOAT4 shRNA (m) Lentiviral Particles: sc-149309-V.

Molecular Weight of MBOAT4: 50 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.