

MTP (8): sc-135994

BACKGROUND

Microsomal triglyceride transfer protein (MTP), catalyzes the transport of cholesteryl ester, triglyceride and phospholipid between phospholipid surfaces. MTP is a heterodimer consisting of MTP and PDI (protein disulfide isomerase). It is required for the secretion of plasma lipoproteins containing apolipoprotein B. It is negatively regulated by insulin and positively regulated by cholesterol. MTP, which localizes to the endoplasmic reticulum (ER), is expressed primarily in small intestine and liver, kidney, testis and ovary. It is not expressed in epithelial cells. Defects in the MTP gene can cause abetalipoproteinemia (ABL) which is an autosomal recessive lipoprotein metabolism disorder.

REFERENCES

- Shoulders, C.C., et al. 1994. The abetalipoproteinemia gene is a member of the vitellogenin family and encodes an α -helical domain. *Nat. Struct. Biol.* 1: 285-286.
- Hagan, D.L., et al. 1994. Transcriptional regulation of human and hamster microsomal triglyceride transfer protein genes. Cell type-specific expression and response to metabolic regulators. *J. Biol. Chem.* 269: 28737-28744.

CHROMOSOMAL LOCATION

Genetic locus: Mtp (mouse) mapping to 3 G3.

SOURCE

MTP (8) is a mouse monoclonal antibody raised against amino acids 91-288 of MTP of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MTP (8) is recommended for detection of MTP of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for MTP siRNA (m): sc-45276, MTP shRNA Plasmid (m): sc-45276-SH and MTP shRNA (m) Lentiviral Particles: sc-45276-V.

Molecular Weight of MTP: 97 kDa.

Positive Controls: mouse liver extract: sc-2256, mouse small intestine extract: sc-364252 or rat liver extract: sc-2395.

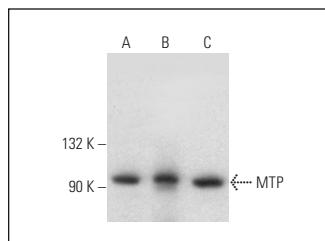
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

STORAGE

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

DATA



MTP (8): sc-135994. Western blot analysis of MTP expression in mouse liver (A), mouse small intestine (B) and rat liver (C) tissue extracts.

SELECT PRODUCT CITATIONS

- Xu, Y., et al. 2015. A metabolic stress-inducible miR-34a-HNF4 α pathway regulates lipid and lipoprotein metabolism. *Nat. Commun.* 6: 7466.
- Sheldon, R.D., et al. 2016. Gestational exercise protects adult male offspring from high-fat diet-induced hepatic steatosis. *J. Hepatol.* 64: 171-178.
- Honda, T., et al. 2017. Branched-chain amino acids alleviate hepatic steatosis and liver injury in choline-deficient high-fat diet induced NASH mice. *Metabolism* 69: 177-187.
- Choi, S., et al. 2018. Pregnane X receptor promotes ethanol-induced hepatosteatosis in mice. *J. Biol. Chem.* 293: 1-17.
- Sanguesa, G., et al. 2019. Chronic fructose intake does not induce liver steatosis and inflammation in female Sprague-Dawley rats, but causes hypertriglyceridemia related to decreased VLDL receptor expression. *Eur. J. Nutr.* 58: 1283-1297.
- Jia, H., et al. 2019. Perilipin 5 promotes hepatic steatosis in dairy cows through increasing lipid synthesis and decreasing very low density lipoprotein assembly. *J. Dairy Sci.* 102: 833-845.
- Chen, L., et al. 2019. Estrogen-related receptor γ regulates hepatic triglyceride metabolism through phospholipase A₂ G12B. *FASEB J.* 33: 7942-7952.
- Morishita, H., et al. 2019. A critical role of VMP1 in lipoprotein secretion. *Elife* 8: e48834.
- Zhang, X., et al. 2020. Smurf1 aggravates non-alcoholic fatty liver disease by stabilizing SREBP-1c in an E3 activity-independent manner. *FASEB J.* 34: 7631-7643.
- Zhao, B., et al. 2020. Knockdown of phosphatase and tensin homolog (PTEN) inhibits fatty acid oxidation and reduces very low density lipoprotein assembly and secretion in calf hepatocytes. *J. Dairy Sci.* 103: 10728-10741.

RESEARCH USE

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