# SANTA CRUZ BIOTECHNOLOGY, INC.

# MTP (C-1): sc-515742



### 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  $\beta$ . It is negatively regulation 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 (AbI) which is an autosomal recessive lipoprotein metabolism disorder.

## **CHROMOSOMAL LOCATION**

Genetic locus: MTTP (human) mapping to 4q23; Mttp (mouse) mapping to 3 G3.

#### SOURCE

MTP (C-1) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of MTP of human origin.

## PRODUCT

Each vial contains 200  $\mu g$  IgG\_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MTP (C-1) is available conjugated to agarose (sc-515742 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515742 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515742 PE), fluorescein (sc-515742 FITC), Alexa Fluor<sup>®</sup> 488 (sc-515742 AF488), Alexa Fluor<sup>®</sup> 546 (sc-515742 AF546), Alexa Fluor<sup>®</sup> 594 (sc-515742 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-515742 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-515742 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-515742 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

### **APPLICATIONS**

MTP (C-1) is recommended for detection of MTP 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 MTP siRNA (h): sc-45275, MTP siRNA (m): sc-45276, MTP shRNA Plasmid (h): sc-45275-SH, MTP shRNA Plasmid (m): sc-45276-SH, MTP shRNA (h) Lentiviral Particles: sc-45275-V and MTP shRNA (m) Lentiviral Particles: sc-45276-V.

Molecular Weight of MTP: 97 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or human small intestine extract: sc-364225.

#### **RESEARCH USE**

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

## STORAGE

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

### DATA





MTP (C-1): sc-515742. Western blot analysis of MTP expression in Hep G2 whole cell lysate ( $\bf{A}$ ) and human small intestine tissue extract ( $\bf{B}$ ).

MTP (C-1): sc-515742. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum (A) and rat small intestine (B) tissue showing cytoplasmic and membrane staining of glandular cells.

#### **SELECT PRODUCT CITATIONS**

- Zhang, J., et al. 2020. miR-130b is a potent stimulator of hepatic VLDL assembly and secretion via marked induction of microsomal triglyceride transfer protein (MTP). Am. J. Physiol. Endocrinol. Metab. 318: E262-E275.
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- He, B., et al. 2022. Chylomicron production is repressed by RPTOR knockdown, R-α-lipoic acid and 4-phenylbutyric acid in human enterocyte-like Caco-2 cells. J. Nutr. Biochem. 108: 109087.
- Ding, H., et al. 2023. RASAL2 deficiency attenuates hepatic steatosis by promoting hepatic VLDL secretion via the Akt/TET1/MTTP axis. J. Clin. Transl. Hepatol. 11: 261-272.
- Bordat, C., et al. 2023. Validation of knock-out Caco-2 TC7 cells as models of enterocytes of patients with familial genetic hypobetalipoproteinemias. Nutrients 15: 505.
- Wang, Y., et al. 2023. Repositioning Lomitapide to block ZDHHC5dependant palmitoylation on SSTR5 leads to anti-proliferation effect in preclinical pancreatic cancer models. Cell Death Discov. 9: 60.
- Thierer, J.H., et al. 2024. Pla2g12b drives expansion of triglyceride-rich lipoproteins. Nat. Commun. 15: 2095.

## PROTOCOLS

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

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