SANTA CRUZ BIOTECHNOLOGY, INC.

PEMT (P-25): sc-130842

BACKGROUND

Phosphatidylethanolamine-N-methyltransferase (PEMT) catalyzes the conversion of phosphatidylethanolamine to phosphatidylcholine (PC) through three sequential methylation reactions. This pathway is primarily utilized in liver, whereas other cells utilize the 1,2-diacylglycerol cholinephosphotransferase (CDP-choline) pathway. PEMT activity participates in many physiologic processes, including the flux of lipid between liver and plasma and the delivery of essential fatty acids to blood and peripheral tissues via liver-derived lipoproteins. PEMT2, an isoform of the enzyme, regulates hepatocyte cell division by inhibiting proliferation. Loss of PEMT2 may contribute to the onset of liver carcinogenesis.

REFERENCES

1. Walkey, C.J., Cui, Z., Agellon, L.B. and Vance, D.E. 1996. Characterization of the murine phosphatidyl-ethanolamine N-methyltransferase-2 gene. J. Lipid Res. 37: 2341-2350.
2. Walkey, C.J., Donohue, L.R., Bronson, R., Agellon, L.B. and Vance, D.E. 1997. Disruption of the murine gene encoding phosphatidylethanolamine N-methyltransferase. Proc. Natl. Acad. Sci. USA 94: 12880-12885.
3. Vance, D.E., Walkey, C.J. and Cui, Z. 1997. Phosphatidylethanolamine N-methyltransferase from liver. Biochim. Biophys. Acta 1348: 142-150.
4. Walkey, C.J., Shields, D.J. and Vance, D.E. 1999. Identification of three novel cDNAs for human phosphatidylethanolamine N-methyltransferase and localization of the human gene on chromosome 17p11.2. Biochim. Biophys. Acta 1436: 405-412.
5. Watkins, S.M., Zhu, X. and Zeisel, S.H. 2003. Phosphatidylethanolamine-N-methyltransferase activity and dietary choline regulate liver-plasma lipid flux and essential fatty acid metabolism in mice. J. Nutr. 133: 3386-3891.

CHROMOSOMAL LOCATION

Genetic locus: PEMT (human) mapping to 17p11.2.

SOURCE

PEMT (P-25) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of PEMT of human origin.

PRODUCT

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

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 or our catalog for detailed protocols and support products.

APPLICATIONS

PEMT (P-25) is recommended for detection of PEMT of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PEMT siRNA (h): sc-106913, PEMT shRNA Plasmid (h): sc-106913-SH and PEMT shRNA (h) Lentiviral Particles: sc-106913-V.

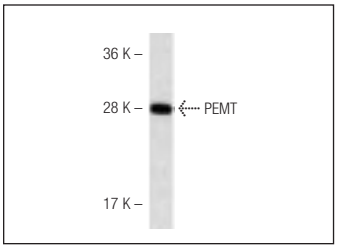
Molecular Weight of PEMT: 22.5 kDa.

Positive Controls: T-47D cell lysate: sc-2293.

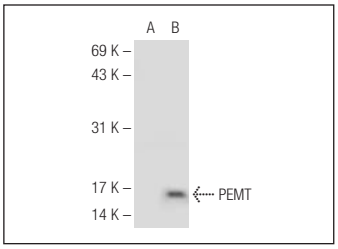
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



PEMT (P-25): sc-130842. Western blot analysis of PEMT expression in T-47D whole cell lysate.



PEMT (P-25): sc-130842. Western blot analysis of PEMT expression in non-transfected: sc-117752 (**A**) and human PEMT transfected: sc-116384 (**B**) 293T whole cell lysates.

RESEARCH USE

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