SANTA CRUZ BIOTECHNOLOGY, INC.

PME-1 (h): 293T Lysate: sc-116374

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Protein phosphatase methylesterase-1 (PME-1) catalyzes the demethylation and inactivation of protein phosphatase (PP2A), which is a multimeric phosphoserine/threonine protein phosphatase associated with growth inhibition and cell cycle arrest. Carboxymethylation and demethylation is a covalent modifcation that regulates the catalytic activity of certain proteins in eukaryotes. Electrostatic interactions that occur at residues or metals in or near the active site can influence the specificity of carboxymethylation and demethylation. PME-1 can demethylate PP2A catalytic subunit *in vitro* and okadaic acid treatment is capable of inhibiting this reaction. PME-1 is conserved from yeast to human and contains a motif found in lipases having a catalytic triad-activated serine as their active site nucleophile.

REFERENCES

1. Lee, J., et al. 1996. A specific protein carboxyl methylesterase that demethylates phosphoprotein phosphatase 2A in bovine brain. Proc. Natl. Acad. Sci. USA 93: 6043-6047.
2. Schonthal, A.H. 1998. Role of PP2A in intracellular signal transduction pathways. Front. Biosci. 3: D1262-D1273.
3. Ogris, E., et al. 1999. A protein phosphatase methylesterase (PME-1) is one of several novel proteins stably associating with two inactive mutants of protein phosphatase 2A. J. Biol. Chem. 274: 14382-14391.
4. Wu, J., et al. 2000. Carboxyl methylation of the phosphoprotein phosphatase 2A catalytic subunit promotes its functional association with regulatory subunits *in vivo*. EMBO J. 19: 5672-5681.
5. Tolstykh, T., et al. 2000. Carboxyl methylation regulates phosphoprotein phosphatase 2A by controlling the association of regulatory B subunits. EMBO J. 19: 5682-5691.
6. Gagnon, S.N., et al. 2002. The genes PME-1 and PME-2 encode two poly(ADP-ribose) polymerases in *Caenorhabditis elegans*. Biochem. J. 368: 263-271.
7. Longin, S., et al. 2004. An inactive protein phosphatase 2A population is associated with methylesterase and can be re-activated by the phosphotyrosyl phosphatase activator. Biochem. J. 380: 111-119.

CHROMOSOMAL LOCATION

Genetic locus: PPME1 (human) mapping to 11q13.4.

PRODUCT

PME-1 (h): 293T Lysate represents a lysate of human PME-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

PME-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive PME-1 antibodies. Recommended use: 10-20 µl per lane.

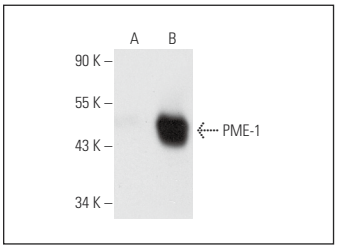
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PME-1 (F-6): sc-137162 is recommended as a positive control antibody for Western Blot analysis of enhanced human PME-1 expression in PME-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

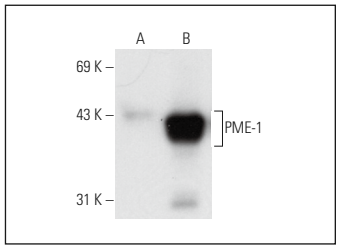
RECOMMENDED SUPPORT REAGENTS

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.

DATA



PME-1 (F-6): sc-137162. Western blot analysis of PME-1 expression in non-transfected: sc-117752 (**A**) and human PME-1 transfected: sc-116374 (**B**) 293T whole cell lysates.



PME-1 (A-10): sc-137145. Western blot analysis of PME-1 expression in non-transfected: sc-117752 (**A**) and human PME-1 transfected: sc-116374 (**B**) 293T whole cell lysates.

RESEARCH USE

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