SANTA CRUZ BIOTECHNOLOGY, INC.

PME-1 (F-11): sc-137161

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., Chen, Y., Tolstykh, T. and Stock, J. 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., Du, X., Nelson, K.C., Mak, E.K., Yu, X.X., Lane, W.S. and Pallas, D.C. 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., Tolstykh, T., Lee, J., Boyd, K., Stock, J.B. and Broach, J.R. 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., Lee, J., Vafai, S. and Stock, J.B. 2000. Carboxyl methylation regulates phosphoprotein phosphatase 2A by controlling the association of regulatory B subunits. EMBO J. 19: 5682-5691.
6. Gagnon, S.N., Hengartner, M.O. and Desnoyers, S. 2002. The genes PME-1 and PME-2 encode two poly(ADP-ribose) polymerases in *Caenorhabditis elegans*. Biochem. J. 368: 263-271.

CHROMOSOMAL LOCATION

Genetic locus: PPME1 (human) mapping to 11q13.4; Ppme1 (mouse) mapping to 7 F1.

SOURCE

PME-1 (F-11) is a mouse monoclonal antibody raised against amino acids 161-386 mapping near the C-terminus of PME-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of 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.

APPLICATIONS

PME-1 (F-11) is recommended for detection of PME-1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PME-1 siRNA (h): sc-36281, PME-1 siRNA (m): sc-36282, PME-1 shRNA Plasmid (h): sc-36281-SH, PME-1 shRNA Plasmid (m): sc-36282-SH, PME-1 shRNA (h) Lentiviral Particles: sc-36281-V and PME-1 shRNA (m) Lentiviral Particles: sc-36282-V.

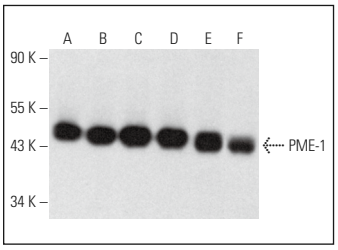
Molecular Weight of PME-1: 44 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, Neuro-2A whole cell lysate: sc-364185 or EOC 20 whole cell lysate: sc-364187.

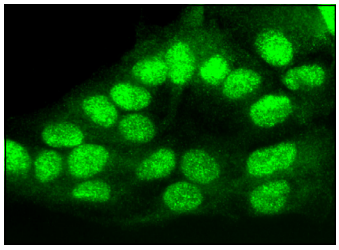
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PME-1 (F-11): sc-137161. Western blot analysis of PME-1 expression in SNU-16 (**A**), HEL 92.1.7 (**B**), Neuro-2A (**C**), EOC 20 (**D**), RIN-m5F (**E**) and C6 (**F**) whole cell lysates.



PME-1 (F-11): sc-137161. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization.

RESEARCH USE

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

PROTOCOLS

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