SANTA CRUZ BIOTECHNOLOGY, INC.

CPI-17 (m): 293T Lysate: sc-126662

BACKGROUND

CPI-17 is a phosphorylation-dependent inhibitory protein for smooth muscle myosin phosphate. CPI-17 was originally identified as a PKC-potentiated inhibitory protein of protein phosphatase-1, which is dominantly expressed in smooth muscle. Phosphorylation at Threonin 38, *in vitro,* by PKC or Rho-kinase enhances the inhibitory potency toward myosin phosphatase. CPI-17 is also phosphorylated at Threonine 38 by protein kinase N and might be involved in the calcium sensitization of smooth muscle contraction as a downstream effector of Rho and/or arachidonic acid. CPI-17 is dually phosphorylated at Serine 12 and Threonine 38 by a MYPT-associated kinase, M110 kinase.

REFERENCES

1. Senba, S., Eto, M. and Yazawa, M. 1999. Identification of trimeric myosin phosphatase (PP1M) as a target for a novel PKC-potentiated protein phosphatase-1 inhibitory protein (CPI17) in porcine aorta smooth muscle. J. Biochem. 125: 354-362.
2. Eto, M., Wong, L., Yazawa, M. and Brautigan, D.L. 2000. Inhibition of myosin/moesin phosphatase by expression of the phosphoinhibitor protein CPI-17 alters microfilament organization and retards cell spreading. Cell Motil. Cytoskeleton 46: 222-234.
3. Hamaguchi, T., Ito, M., Feng, J., Seko, T., Koyama, M., Machida, H., Takase, K., Amano, M., Kaibuchi, K., Hartshorne, D.J. and Nakano, T. 2000. Phosphorylation of CPI-17, an inhibitor of myosin phosphatase, by protein kinase N. Biochem. Biophys. Res. Commun. 274: 825-830.
4. Kitazawa, T., Eto, M., Woodsome, T.P. and Brautigan, D.L. 2000. Agonists trigger G protein-mediated activation of the CPI-17 inhibitor phosphoprotein of myosin light chain phosphatase to enhance vascular smooth muscle contractility. J. Biol. Chem. 275: 9897-9900.
5. Koyama, M., Ito, M., Feng, J., Seko, T., Shiraki, K., Takase, K., Hartshorne, D.J. and Nakano, T. 2000. Phosphorylation of CPI-17, an inhibitory phosphoprotein of smooth muscle myosin phosphatase, by Rho-kinase. FEBS Lett. 475: 197-200.
6. MacDonald, J.A., Eto, M., Borman, M.A., Brautigan, D.L. and Haystead, T.A. 2001. Dual Ser and Thr phosphorylation of CPI-17, an inhibitor of myosin phosphatase, by MYPT-associated kinase. FEBS Lett. 493: 91-94.

CHROMOSOMAL LOCATION

Genetic locus: Ppp1r14a (mouse) mapping to 7 B1.

PRODUCT

CPI-17 (m): 293T Lysate represents a lysate of mouse CPI-17 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.

APPLICATIONS

CPI-17 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CPI-17 antibodies. Recommended use: 10-20 µl per lane.

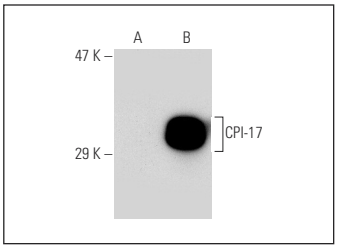
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CPI-17 (A-7): sc-28378 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse CPI-17 expression in CPI-17 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

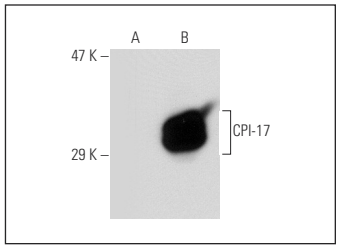
RECOMMENDED SUPPORT REAGENTS

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



CPI-17 (A-7): sc-28378. Western blot analysis of CPI-17 expression in non-transfected: sc-117752 (**A**) and mouse CPI-17 transfected: sc-126662 (**B**) 293T whole cell lysates.



CPI-17 (F-4): sc-48406. Western blot analysis of CPI-17 expression in non-transfected: sc-117752 (**A**) and mouse CPI-17 transfected: sc-126662 (**B**) 293T whole cell lysates.

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.