SANTA CRUZ BIOTECHNOLOGY, INC.

CPI-17 (H-60): sc-25751

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Threonine 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., et al. 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., et al. 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., et al. 2000. Phosphorylation of CPI-17, an inhibitor of myosin phosphatase, by protein kinase N. Biochem. Biophys. Res. Commun. 274: 825-830.
4. Kitazawa, T., et al. 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., et al. 2000. Phosphorylation of CPI-17, an inhibitory phosphoprotein of smooth muscle myosin phosphatase, by Rho-kinase. FEBS Lett. 475: 197-200.

CHROMOSOMAL LOCATION

Genetic locus: PPP1R14A (human) mapping to 19q13.2; Ppp1r14a (mouse) mapping to 7 A3.

SOURCE

CPI-17 (H-60) is a rabbit polyclonal antibody raised against amino acids 88-147 mapping at the C-terminus of CPI-17 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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.

RESEARCH USE

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

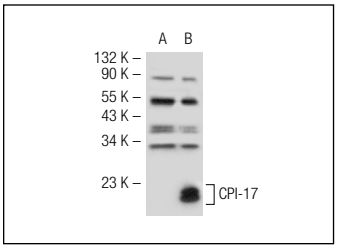
APPLICATIONS

CPI-17 (H-60) is recommended for detection of CPI-17 of human and, to a lesser extent, mouse and rat 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)], 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).

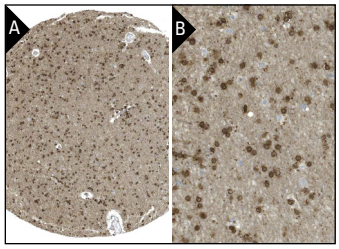
Suitable for use as control antibody for CPI-17 siRNA (h): sc-40423, CPI-17 siRNA (m): sc-40424, CPI-17 siRNA (r): sc-108091, CPI-17 shRNA Plasmid (h): sc-40423-SH, CPI-17 shRNA Plasmid (m): sc-40424-SH, CPI-17 shRNA Plasmid (r): sc-108091-SH, CPI-17 shRNA (h) Lentiviral Particles: sc-40423-V, CPI-17 shRNA (m) Lentiviral Particles: sc-40424-V and CPI-17 shRNA (r) Lentiviral Particles: sc-108091-V.

Molecular Weight of CPI-17: 17 kDa.

DATA



CPI-17 (H-60): sc-25751. 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 (H-60): sc-25751. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing nuclear and cytoplasmic staining of glial cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Shakirova, Y., et al. 2006. Increased Rho activation and PKC-mediated smooth muscle contractility in the absence of caveolin-1. Am J Physiol Cell Physiol. 291: C1326-C1335.
2. Thurneysen, C., et al. 2009. Functional inactivation of NF2/merlin in human mesothelioma. Lung Cancer 64: 140-147.

PROTOCOLS

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