SANTA CRUZ BIOTECHNOLOGY, INC.

CPI-17 (C-1): sc-365841

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 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., et al. 1999. Identification of trimeric Myosin phosphatase (PP1M) as a target for a novel PKC-potentiated protein phosphatase-1 inhibitory protein (CPI-17) 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.

CHROMOSOMAL LOCATION

Genetic locus: PPP1R14A (human) mapping to 19q13.2; Ppp1r14a (mouse) mapping to 7 B1.

SOURCE

CPI-17 (C-1) is a mouse monoclonal antibody raised against a peptide mapping at the N-terminus of CPI-17 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.

CPI-17 (C-1) is available conjugated to agarose (sc-365841 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365841 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365841 PE), fluorescein (sc-365841 FITC), Alexa Fluor® 488 (sc-365841 AF488), Alexa Fluor® 546 (sc-365841 AF546), Alexa Fluor® 594 (sc-365841 AF594) or Alexa Fluor® 647 (sc-365841 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365841 AF680) or Alexa Fluor® 790 (sc-365841 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365841 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CPI-17 (C-1) is recommended for detection of CPI-17 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).

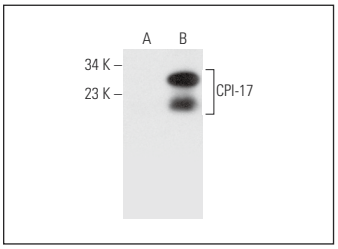
CPI-17 (C-1) is also recommended for detection of CPI-17 in additional species, including porcine.

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.

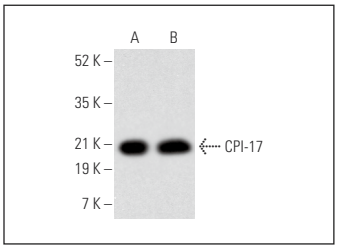
Molecular Weight of CPI-17: 17 kDa.

Positive Controls: PANC-1 whole cell lysate: sc-364380, IMR-32 cell lysate: sc-2409 or CPI-17 (h): 293T Lysate: sc-175952.

DATA



CPI-17 (C-1): sc-365841. Western blot analysis of CPI-17 expression in non-transfected: sc-117752 (**A**) and human CPI-17 transfected: sc-175952 (**B**) 293T whole cell lysates.



CPI-17 (C-1): sc-365841. Western blot analysis of CPI-17 expression in PANC-1 (**A**) and IMR-32 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bahls, M., et al. 2014. Mother's exercise during pregnancy programmes vasomotor function in adult offspring. Exp. Physiol. 99: 205-219.
2. Hagel, C., et al. 2016. The putative oncogene CPI-17 is up-regulated in schwannoma. Neuropathol. Appl. Neurobiol. 42: 664-668.

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.