

# CPI-17 (A-20): sc-30927

## BACKGROUND

CPI-17 is a phosphorylation-dependent inhibitory protein for smooth muscle myosin phosphatase. 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 (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.
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 B1.

## SOURCE

CPI-17 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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.

Blocking peptide available for competition studies, sc-30927 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

CPI-17 (A-20) is recommended for detection of CPI-17 of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

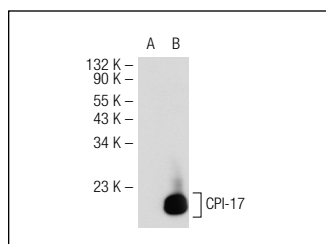
CPI-17 (A-20) is also recommended for detection of CPI-17 in additional species, including bovine and porcine.

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

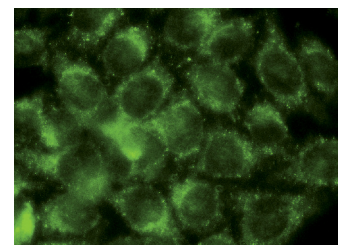
Molecular Weight of CPI-17: 17 kDa.

Positive Controls: mouse lung extract: sc-2390, rat lung extract: sc-2396 or CPI-17 (m): 293T Lysate: sc-126662.

## DATA



CPI-17 (A-20): sc-30927. 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 (A-20): sc-30927. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Mukherjee, S., et al. 2013. Ca<sup>2+</sup> oscillations, Ca<sup>2+</sup> sensitization, and contraction activated by protein kinase C in small airway smooth muscle. *J. Gen. Physiol.* 141: 165-178.

## RESEARCH USE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **CPI-17 (F-4): sc-48406** or **CPI-17 (C-1): sc-365841**, our highly recommended monoclonal alternatives to CPI-17 (A-20).