

# CPI-17 (K-20): sc-30930

## 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

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3. 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.
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5. 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.
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 (human) mapping to 19q13.2; Ppp1r14a (mouse) mapping to 7 B1.

## SOURCE

CPI-17 (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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.

Blocking peptide available for competition studies, sc-30930 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CPI-17 (K-20) 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), 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).

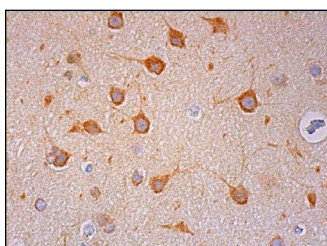
CPI-17 (K-20) is also recommended for detection of CPI-17 in additional species, including bovine and porcine.

Suitable for use as control antibody for CPI-17 siRNA (h): sc-40423, CPI-17 siRNA (m): sc-40424, CPI-17 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: A549 cell lysate: sc-2413.

## DATA



CPI-17 (K-20): sc-30930. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells and glial cells.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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