

CPI-17 (F-4): sc-48406

BACKGROUND

CPI-17 Antibody (F-4) is a high quality monoclonal CPI-17 antibody (also designated CPI-17 antibody) suitable for the detection of the CPI-17 protein of mouse, rat, human and porcine origin. CPI-17 Antibody (F-4) is available as both the non-conjugated anti-CPI-17 antibody form, as well as multiple conjugated forms of anti-CPI-17 antibody, including agarose, HRP, PE, FITC and multiple Alexa Fluor® conjugates. CPI-17 is a phosphorylation-dependent inhibitory protein for smooth muscle myosin phosphatase. CPI-17 was originally identified as a PKC-potentiating 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.

CHROMOSOMAL LOCATION

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

SOURCE

CPI-17 (F-4) is a mouse monoclonal antibody raised against amino acids 88-147 of CPI-17 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CPI-17 (F-4) is available conjugated to agarose (sc-48406 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48406 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48406 PE), fluorescein (sc-48406 FITC), Alexa Fluor® 488 (sc-48406 AF488), Alexa Fluor® 546 (sc-48406 AF546), Alexa Fluor® 594 (sc-48406 AF594) or Alexa Fluor® 647 (sc-48406 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48406 AF680) or Alexa Fluor® 790 (sc-48406 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CPI-17 (F-4) is recommended for detection of CPI-17 of mouse, rat, human and porcine 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).

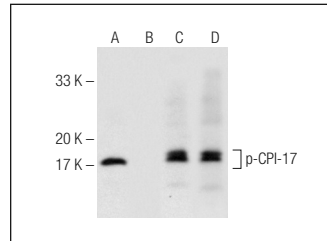
Suitable for use as control antibody for CPI-17 siRNA (h): sc-40423, CPI-17 siRNA (m): sc-40424, CPI-17 siRNA (r): sc-108091, CPI-17 shRNA Plasmid (h): sc-40423-SH, CPI-17 shRNA Plasmid (m): sc-40424-SH, CPI-17 shRNA Plasmid (r): sc-108091-SH, CPI-17 shRNA (h) Lentiviral Particles: sc-40423-V, CPI-17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

Molecular Weight of CPI-17: 17 kDa.

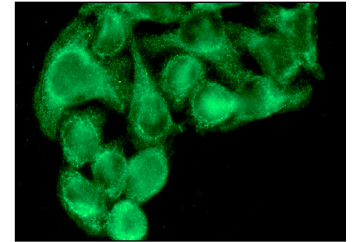
STORAGE

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

DATA



Western blot analysis of CPI-17 phosphorylation in untreated (A, C) and lambda protein phosphatase (sc-200312A) treated (B, D) human platelet extracts. Antibodies tested include p-CPI-17 (Thr 38)-R: sc-17560-R (A, B) and CPI-17 (F-4): sc-48406 (C, D).



CPI-17 (F-4): sc-48406. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Ruiz-Loredo, A.Y., et al. 2013. Thrombin stimulates stress fiber assembly in RPE cells by PKC/CPI-17-mediated MLCP inactivation. *Exp. Eye Res.* 96: 13-23.
- An, C., et al. 2015. Role of telokin in regulating murine gastric fundus smooth muscle tension. *PLoS ONE* 10: e0134876.
- Xie, Y., et al. 2018. A role for focal adhesion kinase in facilitating the contractile responses of murine gastric fundus smooth muscles. *J. Physiol.* 596: 2131-2146.
- Li, W., et al. 2018. Contractile protein expression and phosphorylation and contractility of gastric smooth muscles from obese patients and patients with obesity and diabetes. *J. Diabetes Res.* 2018: 8743874.
- Xie, Y., et al. 2019. Quantitative *in situ* proximity ligation assays examining protein interactions and phosphorylation during smooth muscle contractions. *Anal. Biochem.* 577: 1-13.
- Xu, J., et al. 2020. CPI-17 overexpression and its correlation with the NF2 mutation spectrum in sporadic vestibular schwannomas. *Otol. Neurotol.* 41: e94-e102.

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.

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