SANTA CRUZ BIOTECHNOLOGY, INC.

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

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 down-stream effector of Rho and/or arachidonic acid. CPI-17 is dually phosphory-lated 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.

Positive Controls: rat brain extract: sc-2392 or A549 cell lysate: sc-2413.

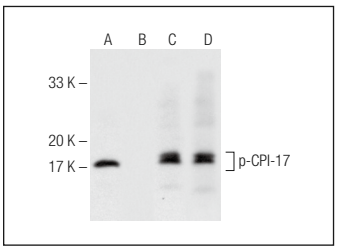
RESEARCH USE

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

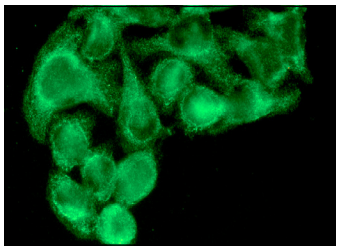
STORAGE

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

1. 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.
2. An, C., et al. 2015. Role of telokin in regulating murine gastric fundus smooth muscle tension. PLoS ONE 10: e0134876.
3. 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.
4. 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.
5. 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.
6. 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.
7. Sung, T.S., et al. 2022. Altered functional responses by PAR1 agonist in murine dextran sodium sulphate-treated colon. Sci. Rep. 12: 16746.

PROTOCOLS

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