

SCOP (H-3): sc-390129

BACKGROUND

SCOP (suprachiasmatic nucleus circadian oscillatory protein, PHLPP, PH domain and leucine rich repeat protein phosphatase, PLEKHE1) is a phosphatase that directly dephosphorylates Akt, promotes apoptosis, and suppresses tumor growth. Endogenous SCOP in human embryonic kidney cell lysates produces a major protein and minor protein. SCOP negatively regulates K-Ras signaling in membrane rafts and contributes to the regulation of the Ras-MAPK signaling pathway. Recombinant SCOP can dephosphorylate the hydrophobic motif of Akt1 (Ser 473) *in vitro*, triggering apoptosis and suppressing tumor growth. SCOP levels appear lower in certain colon cancer and glioblastoma cell lines that show elevated Akt phosphorylation. Rat tissues that express SCOP include cerebrum, cerebellum, and testis.

CHROMOSOMAL LOCATION

Genetic locus: PHLPP1 (human) mapping to 18q21.33; Phlpp1 (mouse) mapping to 1 E2.1.

SOURCE

SCOP (H-3) is a mouse monoclonal antibody raised against amino acids 1334-1393 mapping within an internal region of SCOP of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SCOP (H-3) is available conjugated to agarose (sc-390129 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390129 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390129 PE), fluorescein (sc-390129 FITC), Alexa Fluor® 488 (sc-390129 AF488), Alexa Fluor® 546 (sc-390129 AF546), Alexa Fluor® 594 (sc-390129 AF594) or Alexa Fluor® 647 (sc-390129 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390129 AF680) or Alexa Fluor® 790 (sc-390129 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SCOP (H-3) is recommended for detection of SCOP 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).

Suitable for use as control antibody for SCOP siRNA (h): sc-45859, SCOP siRNA (m): sc-45860, SCOP siRNA (r): sc-270416, SCOP shRNA Plasmid (h): sc-45859-SH, SCOP shRNA Plasmid (m): sc-45860-SH, SCOP shRNA Plasmid (r): sc-270416-SH, SCOP shRNA (h) Lentiviral Particles: sc-45859-V, SCOP shRNA (m) Lentiviral Particles: sc-45860-V and SCOP shRNA (r) Lentiviral Particles: sc-270416-V.

Molecular Weight of SCOP long β isoform: 190 kDa.

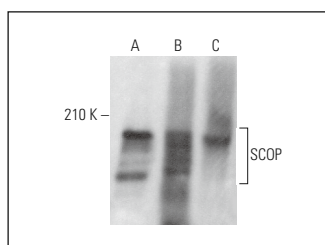
Molecular Weight of SCOP short α isoform: 140 kDa.

Positive Controls: Y79 nuclear extract: sc-2126, mouse brain extract: sc-2253 or SW480 cell lysate: sc-2219.

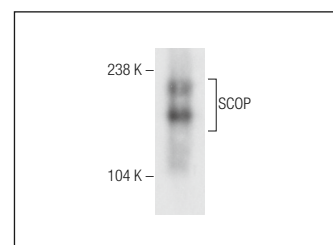
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SCOP (H-3): sc-390129. Western blot analysis of SCOP expression in SW480 whole cell lysate (A) and mouse brain (B) and rat brain (C) tissue extracts.



SCOP (H-3): sc-390129. Western blot analysis of SCOP expression in Y79 nuclear extract.

SELECT PRODUCT CITATIONS

- Akpınar, H.A., et al. 2019. Ochratoxin A sequentially activates autophagy and the ubiquitin-proteasome system. *Toxins* 11: 615.
- Chern, Y., et al. 2020. Heat shock protein 47 promotes tumor survival and therapy resistance by modulating Akt signaling via PHLPP1 in colorectal cancer. *Cancer Biol. Med.* 17: 343-356.
- Kim, J.W., et al. 2020. Leptin modulates the metastasis of canine inflammatory mammary adenocarcinoma cells through downregulation of lysosomal protective protein cathepsin A (CTSA). *Int. J. Mol. Sci.* 21: 8963.
- Stole, T.P., et al. 2022. The female syndecan-4^{-/-} heart has smaller cardiomyocytes, augmented Insulin/pSer473-Akt/pSer9-GSK-3β signaling, and lowered SCOP, pThr308-Akt/Akt and GLUT4 levels. *Front. Cell Dev. Biol.* 10: 908126.

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 for detailed protocols and support products.

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