

PHPT1 (C-6): sc-398659

BACKGROUND

PHPT1 (phosphohistidine phosphatase 1), also known as 14 kDa phosphohistidine phosphatase, is a 125 amino acid enzyme belonging to the Janus protein family. Existing as a monomer in the cytoplasm, PHPT1 is an EDTA-insensitive phosphohistidine phosphatase. First identified in human adrenal gland, PHPT1 is highly expressed in skeletal muscle and heart, with lower expression in liver, pancreas and kidney. Overexpression of PHPT1 leads to specific phosphohistidine phosphatase activity towards phosphopeptide I, with no activity detected towards phosphotyrosine, phosphothreonine and phosphoserine peptides. PHPT1 is highly conserved among species, suggesting that it serves an essential functional role.

REFERENCES

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- Lai, C.H., et al. 2001. Identification of the human crooked neck gene by comparative gene identification. *Biochim. Biophys. Acta* 1517: 449-454.
- Ek, P., et al. 2002. Identification and characterization of a mammalian 14-kDa phosphohistidine phosphatase. *Eur. J. Biochem.* 269: 5016-5023.
- Klumpp, S., et al. 2002. Protein histidine phosphatase: a novel enzyme with potency for neuronal signaling. *J. Cereb. Blood Flow Metab.* 22: 1420-1424.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610167. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Klumpp, S., et al. 2003. ATP-citrate lyase as a substrate of protein histidine phosphatase in vertebrates. *Biochem. Biophys. Res. Commun.* 306: 110-115.

CHROMOSOMAL LOCATION

Genetic locus: PHPT1 (human) mapping to 9q34.3; Phpt1 (mouse) mapping to 2 A3.

SOURCE

PHPT1 (C-6) is a mouse monoclonal antibody raised against amino acids 1-125 representing full length PHPT1 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.

PHPT1 (C-6) is available conjugated to agarose (sc-398659 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398659 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398659 PE), fluorescein (sc-398659 FITC), Alexa Fluor® 488 (sc-398659 AF488), Alexa Fluor® 546 (sc-398659 AF546), Alexa Fluor® 594 (sc-398659 AF594) or Alexa Fluor® 647 (sc-398659 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398659 AF680) or Alexa Fluor® 790 (sc-398659 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PHPT1 (C-6) is recommended for detection of PHPT1 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 PHPT1 siRNA (h): sc-92729, PHPT1 siRNA (m): sc-152235, PHPT1 shRNA Plasmid (h): sc-92729-SH, PHPT1 shRNA Plasmid (m): sc-152235-SH, PHPT1 shRNA (h) Lentiviral Particles: sc-92729-V and PHPT1 shRNA (m) Lentiviral Particles: sc-152235-V.

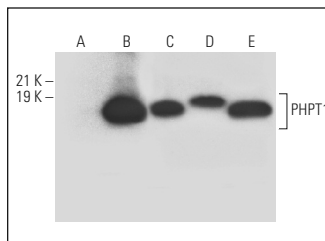
Molecular Weight of PHPT1: 14 kDa.

Positive Controls: PHPT1 (h): 293 Lysate: sc-113869, MCF7 whole cell lysate: sc-2206 or NIH/3T3 whole cell lysate: sc-2210.

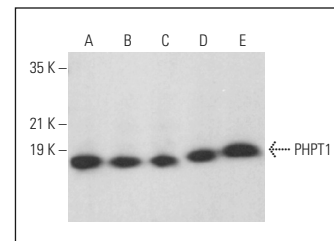
RECOMMENDED SUPPORT REAGENTS

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



PHPT1 (C-6): sc-398659. Western blot analysis of PHPT1 expression in non-transfected 293: sc-110760 (A), human PHPT1 transfected 293: sc-113869 (B), MCF7 (C) and NIH/3T3 (D) whole cell lysates and human kidney tissue extract (E).



PHPT1 (C-6): sc-398659. Western blot analysis of PHPT1 expression in MCF7 (A), K-562 (B), HEL 92.1.7 (C), PC-12 (D) and Neuro-2A (E) whole cell lysates.

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.