SANTA CRUZ BIOTECHNOLOGY, INC.

PSPH (H-10): sc-271421

BACKGROUND

Serine is an amino acid required for protein and nucleotide synthesis that may also be involved in cell to cell signaling. PSPH, also known as phosphoserine phosphatase or PSP, is a 225 amino acid Mg^{2+}-dependent enzyme that catalyzes the last and irreversible step in the biosynthesis of serine from carbohydrates, which is the hydrolysis of O-phosphoserine. In the embryonic brain, PSPH is highly expressed in periventricular neural progenitors where it may have a role in neural stem cell proliferation. A lack of PSPH in humans has been shown to cause pre- and postnatal growth retardation as well as moderate psychomotor retardation.

CHROMOSOMAL LOCATION

Genetic locus: PSPH (human) mapping to 7p11.2; Psph (mouse) mapping to 5 G1.3.

SOURCE

PSPH (H-10) is a mouse monoclonal antibody raised against amino acids 1-225 representing full length PSPH of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PSPH (H-10) is available conjugated to agarose (sc-271421 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271421 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271421 PE), fluorescein (sc-271421 FITC), Alexa Fluor® 488 (sc-271421 AF488), Alexa Fluor® 546 (sc-271421 AF546), Alexa Fluor® 594 (sc-271421 AF594) or Alexa Fluor® 647 (sc-271421 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271421 AF680) or Alexa Fluor® 790 (sc-271421 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

PSPH (H-10) is recommended for detection of PSPH 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 PSPH siRNA (h): sc-76125, PSPH siRNA (m): sc-76126, PSPH shRNA Plasmid (h): sc-76125-SH, PSPH shRNA Plasmid (m): sc-76126-SH, PSPH shRNA (h) Lentiviral Particles: sc-76125-V and PSPH shRNA (m) Lentiviral Particles: sc-76126-V.

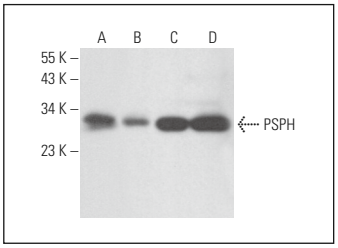
Molecular Weight of PSPH: 25 kDa.

Positive Controls: A-10 cell lysate: sc-3806, A-431 whole cell lysate: sc-2201 or K-562 whole cell lysate: sc-2203.

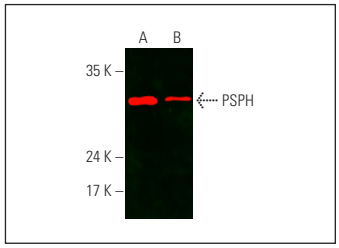
RECOMMENDED SUPPORT REAGENTS

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



PSPH (H-10): sc-271421. Western blot analysis of PSPH expression in K-562 (**A**), A-431 (**B**), A-10 (**C**) and KNRK (**D**) whole cell lysates.



PSPH (H-10): sc-271421. Near-Infrared western blot analysis of PSPH expression in Hep G2 (**A**) and A-431 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Bodega, G., et al. 2018. Young and especially senescent endothelial microvesicles produce NADPH: the fuel for their antioxidant machinery. Oxid. Med. Cell. Longev. 2018: 3183794.
2. Abdollahi, P., et al. 2021. Phosphatase of regenerating liver-3 regulates cancer cell metabolism in multiple myeloma. FASEB J. 35: e21344.
3. Fan, Z., et al. 2021. Exercise-induced angiogenesis is dependent on metabolically primed ATF3/4+ endothelial cells. Cell Metab. 33: 1793-1807.e9.
4. Elsaadi, S., et al. 2021. Targeting phosphoglycerate dehydrogenase in multiple myeloma. Exp. Hematol. Oncol. 10: 3.

STORAGE

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

PROTOCOLS

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