**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 Mg²⁺-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 IgGκ 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 IF; to HRP (sc-271421 HRP), 200 µg/ml, for WB, IHC/IP 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/IP 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.

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**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).


Molecular Weight of PSPH: 25 kDa.


**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 KN6 (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-CL 760: sc-516181.

**SELECT PRODUCT CITATIONS**


**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.