

PSPH (h): 293T Lysate: sc-116691

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.

REFERENCES

1. Koch, G.A., et al. 1983. Assignment of the human phosphoserine phosphatase gene (PSP) to the pter leads to q22 region of chromosome 7. *Cytogenet. Cell Genet.* 35: 67-69.
2. Sparkes, R.S., et al. 1983. The human phosphoserine phosphatase gene (PSP) is mapped to chromosome 7 by somatic cell genetic analysis. *Cytogenet. Cell Genet.* 35: 70-71.
3. Collet, J.F., et al. 1997. Human L-3-phosphoserine phosphatase: sequence, expression and evidence for a phosphoenzyme intermediate. *FEBS Lett.* 408: 281-284.
4. Jaeken, J., et al. 1997. Phosphoserine phosphatase deficiency in a patient with Williams syndrome. *J. Med. Genet.* 34: 594-596.
5. Collet, J.F., et al. 1999. Mechanistic studies of phosphoserine phosphatase, an enzyme related to P-type ATPases. *J. Biol. Chem.* 274: 33985-33990.
6. Peeraer, Y., et al. 2004. How calcium inhibits the magnesium-dependent enzyme human phosphoserine phosphatase. *Eur. J. Biochem.* 271: 3421-3427.

CHROMOSOMAL LOCATION

Genetic locus: PSPH (human) mapping to 7p11.2.

PRODUCT

PSPH (h): 293T Lysate represents a lysate of human PSPH transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

PSPH (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive PSPH antibodies. Recommended use: 10-20 μ l per lane.

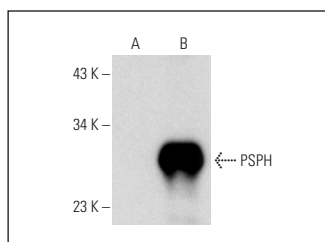
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PSPH (H-11): sc-365183 is recommended as a positive control antibody for Western Blot analysis of enhanced human PSPH expression in PSPH transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



PSPH (H-11): sc-365183. Western blot analysis of PSPH expression in non-transfected: sc-117752 (A) and human PSPH transfected: sc-116691 (B) 293T whole cell lysates.

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.