

# Human PSPH Protein

Catalog Number: 13503-HNAE



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

PSP; PSPHD

### Protein Construction:

A DNA sequence encoding the human PSPH (P78330) (Met 1-Glu 225) was expressed and purified.

**Source:** Human

**Expression Host:** E. coli

## QC Testing

**Purity:** > 84 % as determined by SDS-PAGE

### Endotoxin:

Please contact us for more information.

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met 1

### Molecular Mass:

The recombinant human PSPH consists of 225 amino acids and has a calculated molecular mass of 25KD. It migrates as an approximately 28KDa band in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

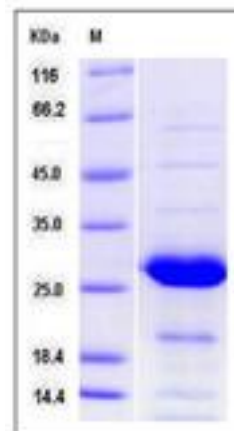
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Phosphoserine phosphatase (PSPH) belongs to a subfamily of the phosphotransferases. PSPH is the rate-limiting enzyme in L-serine biosynthesis. It has previously been found that Phosphoserine phosphatase (PSPH) plays a role in epidermal homeostasis. Phosphoserine phosphatase (PSP) catalyzes the hydrolysis of phosphoserine to serine. Phosphoserine phosphatase (PSPH) expression has been examined in human-mouse somatic cell hybrids retaining different combination of human chromosomes. Phosphoserine phosphatase (PSPH) is expressed throughout the proliferative layer of the epidermis and hair follicles in rodent and human skin and is highly induced in SCC. In keratinocytes, Phosphoserine phosphatase (PSPH) is a cytoplasmic protein that primarily localizes to endosomes and is present primarily as a homodimer. Knock down of Phosphoserine phosphatase (PSPH) dramatically diminished SCC cell proliferation and cyclin D1 levels in the presence of exogenous of L-serine production suggesting a non-canonical role for Phosphoserine phosphatase (PSPH) in epithelial carcinogenesis. Phosphoserine phosphatase (PSPH) is highly induced in proliferative normal keratinocytes and in skin tumors. Phosphoserine phosphatase (PSPH) appears to be critical for the proliferation of SCC cells; however, this phenomenon may not involve the phosphoserine metabolic pathway.

## References

1. Bachelor MA, *et al.* (2011) L-3-Phosphoserine phosphatase (PSPH) regulates cutaneous squamous cell carcinoma proliferation independent of L-serine biosynthesis. *J Dermatol Sci.* 63(3): 164-72.
2. Koch GA, *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(1): 67-9.
3. Jaeken J, *et al.* (1997) Phosphoserine phosphatase deficiency in a patient with Williams syndrome. *J Med Genet.* 34(7): 594-6.

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