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# Certificate of Analysis and Data Sheet

## Recombinant Human Phosphoethanolamine/Phosphocholine Phosphatase

**Catalog No.**

228-11239

**Source:**

*Escherichia Coli.*

### Synonyms

Phosphoethanolamine/phosphocholine phosphatase, Phosphatase, Orphan 1, EC 3.1.3.75, Phospho1.

### Introduction

PHOSPHO1 is involved in mineralization process & plays a role in bone and cartilage matrix mineralization.

PHOSPHO1 is expressed at sites of mineralization in bone and cartilage. Highly expressed in osteoblast cell line SaOS-2 which produces a mineralized matrix.

Orphan-1 is collagen type -2 is specific for cartilaginous tissues. Orphan1 is essential for the normal embryonic development of the skeleton, for linear growth and for the ability of cartilage to resist compressive forces.

Phosphoethanolamine (2-O3POCH<sub>2</sub>CH<sub>2</sub>NH<sub>3</sub>) is a key intermediate in the formation of cephalins, it is formed in liver and brain by phosphorylation of ethanolamine.

PHOSPHO2 and PHOSPHO1 suggest subtle differences in the charge distributions around the putative substrate entry site and in the location of potential H-bond donors.

PHOSPHO1 exhibits high specific phosphoethanolamine and phosphocholine phosphatase activities

PHOSPHO1 is a phosphatase enzyme for which expression is upregulated in mineralizing cells.

PHOSPHO1 has been implicated in the generation of Pi for matrix mineralization, a process central to skeletal development. PHOSPHO1 is a member of the haloacid dehalogenase (HAD) superfamily of Mg<sup>2+</sup>-dependent hydrolases. PHOSPHO1 exhibits high specific activities toward phosphoethanolamine (PEA) and phosphocholine (PCho).

### Description

Human Phospho1 Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 295 amino acids and having a molecular mass of 31.3 kDa.

The Human Phospho1 is fused to His tag at N-Terminus.

Human Phosphocholine Phosphatase is purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### ***Formulation***

The sterile filtered concentrated (0.5 mg/ml) protein solution was lyophilized with 30mM acetate buffer pH-4.

### ***Solubility***

Add 0.1M acetate buffer pH4 to a working concentration of 0.5mg/ml and let the lyophilized pellet dissolve completely.

### ***Stability***

Store lyophilized protein at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles. Reconstituted protein can be stored at 4°C for a limited period of time.

### ***Purity***

Greater than 95% as determined by SDS-PAGE.

### ***Amino acid sequence***

MRGSHHHHHH GMASMSGCFP VSGLRCLSRD GRMAAQGAPR FLLTFDFDET  
IVDENSDDSI VRAAPGQRLP ESLRATYREG FYNEYMQRVF KYLGEQGVPR  
RDL SAIYEAI PLSPGMSDLL QFVAKQGACF EVILISDANT FGVESLRAA  
GHHS LFRRIL SNPSGPDARG LLALRPFHTH SCARCPANMC KHKVLS DYLR  
ERA HDGVHFE RLFYVG DGAN DFCPMGLLAG GDVAFPRRGY PMHRLIQEAQ  
KAEPSSFRAS VVPWETAADV RLHLQQVLKSC.

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