Product Data Sheet

Product Name:	PHOSPHO1 Human
Cat. No.:	GP22084
Batch No.:	1

Product Data

Purity	>98%	Source	Escherichia Coli.
Phycical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	Phosphoethanolamine/phosphocholine phosphatase; Phosphatase; Orphan 1; EC 3.1.3.75; Phospho1.		
Amino Acid Sequence	MRGSHHHHHH GMASMSGCFP VSGLRCLSRD GRMAAQGAPR FLLTFDFDET IVDENSDDSI VRAAPGQRLP ESLRATYREG FYNEYMQRVF KYLGEQGVRP RDLSAIYEAI PLSPGMSDLL QFVAKQGACF EVILISDANT FGVESSLRAA GHHSLFRRIL SNPSGPDARG LLALRPFHTH SCARCPANMC KHKVLSDYLR ERAHDGVHFE RLFYVGDGAN DFCPMGLLAG GDVAFPRRGY PMHRLIQEAQ KAEPSSFRAS VVPWETAADV RLHLQQVLKSC.		
Solubility	It is recommended to add 0.1M Acetate buffer pH4 to prepare a working stock solution of approximately 0.5mg/ml and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10µg/ml. In higher concentrations the solubility of this protein is limited. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.		
Formulation	Filtered (0.4µm) and lyophilized from 0.5mg/ml in 30mM acetate buffer pH-4.		

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-

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O3POCH2CH2NH3) 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 Mg2+-dependent hydrolases. PHOSPHO1 exhibits high specific activities toward phosphoethanolamine (PEA) and phosphocholine (PCho).

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.

Background

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 a 14 aa His tag at N-Terminus. Human Phosphocholine Phosphatase is purified by proprietary chromatographic techniques.

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