

Phospho1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP54888

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q8TCT1
Reactivity	Rat, Pig, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	29713
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Phospho1
Epitope Specificity	201-267/267
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the HAD-like hydrolase superfamily. PHOSPHO family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	PHOSPHO1 is a 267 amino acid phosphatase that is a member of the haloacid dehalogenase (HAD) superfamily of magnesium-dependent hydrolases. PHOSPHO1 is highly expressed in bone and cartilage and localizes to the osteoid layer of the periosteum. PHOSPHO1 is restricted to sites of mineralization and its inhibition decreases the ability of matrix vesicles to calcify in bone, suggesting that the protein may play a role in the matrix mineralization process during skeletal development. PHOSPHO1 cleaves phosphoethanolamine and phosphocholine to generate inorganic phosphate for bone mineralization. PHOSPHO1 contains three catalytic motifs that are conserved within the haloacid dehalogenase superfamily.

Additional Information

Gene ID	162466
Other Names	Phosphoethanolamine/phosphocholine phosphatase, 3.1.3.75, PHOSPHO1
Target/Specificity	Expressed at sites of mineralization in bone and cartilage. Highly expressed in osteoblast cell line SaOS-2 which produces a mineralized matrix, but not in MG-63 cell line, which do not mineralize.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce

Storage

Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name

PHOSPHO1 {ECO:0000303 | PubMed:12464021, ECO:0000312 | HGNC:HGNC:16815}

Function

Phosphatase that has a high activity toward phosphoethanolamine (PEA) and phosphocholine (PCho) (PubMed:[15175005](#)). Involved in the generation of inorganic phosphate for bone mineralization (By similarity). Acts in a non-redundant manner with PHOSPHO1 in skeletal mineralization: while PHOSPHO1 mediates the initiation of hydroxyapatite crystallization in the matrix vesicles (MVs), ALPL/TNAP catalyzes the spread of hydroxyapatite crystallization in the extracellular matrix (By similarity).

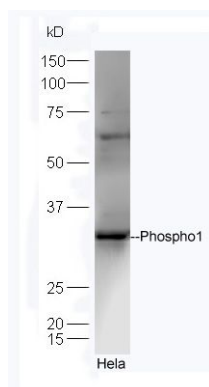
Cellular Location

Extracellular vesicle {ECO:0000250 | UniProtKB:Q8R2H9}. Note=Localizes to special class of extracellular vesicles, named matrix vesicles (MVs), which are released by osteogenic cells. {ECO:0000250 | UniProtKB:Q8R2H9}

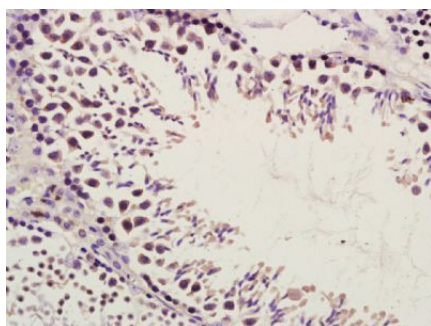
Tissue Location

Expressed at sites of mineralization in bone and cartilage. Highly expressed in osteoblast cell line SaOS-2 which produces a mineralized matrix, but not in MG-63 cell line, which do not mineralize.

Images



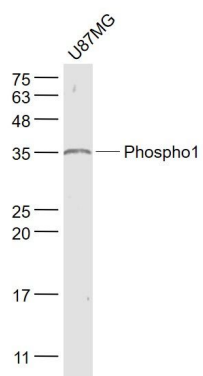
Sample: HeLa Cell (Human) Lysate at 40 ug
Primary: Anti-Phospho1 (AP54888) at 1/300 dilution
Secondary: HRP conjugated Goat-Anti-rabbit IgG (bs-0295G-HRP) at 1/5000 dilution
Predicted band size: 30 kD
Observed band size: 30 kD



Paraformaldehyde-fixed, paraffin embedded (Mouse testis); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Phospho1) Polyclonal Antibody, Unconjugated (AP54888) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.

Sample:

U87MG(Human) Cell Lysate at 30 ug
Primary: Anti- Phospho1 (AP54888) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution



Predicted band size: 30 kD
Observed band size: 35 kD

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.