

Product datasheet for **AP05058PU-N**

Acid Phosphatase (ACP1) Sheep Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IP, WB
Recommended Dilution:	Western Blot. Immunoprecipitation: 1-10 µg/ml.
Reactivity:	Bovine, Human, Mouse, Rat
Host:	Sheep
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	The Human protein, HCPTPA was subcloned into pRSET to express a His6 N-terminal fusion protein. This protein was expressed in E. coli and purified to homogeneity on Ni affinity matrix.
Specificity:	This antibody reacts to LMW Protein Tyrosine Phosphatase.
Formulation:	PBS State: Purified State: Liquid purified Ig fraction Preservative: 0.08% Sodium Azide
Concentration:	lot specific
Purification:	Ammonium Sulfate Precipitation
Conjugation:	Unconjugated
Storage:	Upon receipt, store undiluted (in aliquots) at -20°C. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	acid phosphatase 1, soluble
Database Link:	Entrez Gene 52 Human P24666



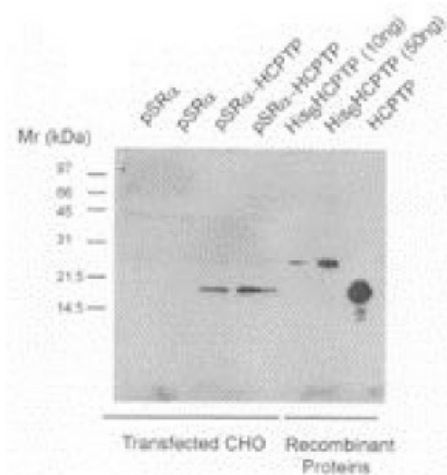
[View online »](#)

Background:

Low molecular weight protein tyrosine phosphatases, including the human red cell phosphatase, HCPTP, are widely expressed cytosolic proteins of approximately 18kDa that exist in distinct isoforms and are highly selective for phosphotyrosine over phosphoserine or phosphothreonine. The HCPTP-A and HCPTP-B proteins expressed in human red cells and placenta are fast and slow forms of red cell acid phosphatase⁵. Like other tyrosine phosphatases, HCPTP is sensitive to inhibition by vanadate, and has a catalytic mechanism that involves formation of a cystinylphosphate intermediate⁶. The crystal structure of the bovine heart derived enzyme BHPTP shows a four-stranded central parallel β sheet with flanking α helices and an active site cysteine residue in the typical tyrosine phosphatase sequence context, CXXXXXR. Biological actions and cellular substrates have not been fully elucidated. It is expressed in a wide range of cell types, and structural homologues are expressed in yeast. A catalytically inactive LMW-PTP functions to promote cell division and binds to tyrosine-phosphorylated PDGF receptors¹. The HCPTPA isoform interacts with receptor tyrosine kinases, EphB1 and VEGFR2 (flk-1) ^{2,4}. Its overexpression inhibits VEGF-induced endothelial proliferation and migration, and its recruitment to EphB1 complexes is crucial to downstream signaling between EphB1 and integrins that mediate cell-matrix attachment³.

Synonyms:

Adipocyte acid phosphatase, Red cell acid phosphatase 1, HAAP

Product images:


CHO cells were transfected with either Vector (pSRa) or expression vector driving expression of HCPTPA (pSRa-LMWPTP), and harvested in Triton X-100 lysis buffer at 72 h after transfection. 2mg of lysate protein was incubated for 1 h with 10ml of sheep-anti-LMWPTP containing anti-serum, and immunoprecipitated proteins recovered by Protein A/G were separated on PAGE (12%), and HCPTPA detected using a mouse antisheep monoclonal antibody.