

**Recombinant Human ACP1/LMW-PTP Protein (GST Tag)**

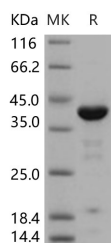
Catalog No. PKSH031337

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.**Description**

<b>Synonyms</b>	HAAP;Low Molecular Weight Phosphotyrosine Protein Phosphatase;LMW-PTP;LMW-PTPase;Adipocyte Acid Phosphatase;Low Molecular Weight Cytosolic Acid Phosphatase;Red Cell Acid Phosphatase 1;ACP1
<b>Species</b>	Human
<b>Expression Host</b>	E.coli
<b>Sequence</b>	Met 1-His 158
<b>Accession</b>	AAI06012.1
<b>Calculated Molecular Weight</b>	44.3 kDa
<b>Observed molecular weight</b>	40 kDa
<b>Tag</b>	N-GST
<b>Bioactivity</b>	Measured by its ability to cleave a substrate, pNitrophenyl phosphate (pNPP). The specific activity is > 65, 000 pmol/min/μg.

**Properties**

<b>Purity</b>	> 88 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	Please contact us for more information.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile 50mM Tris, 150mM NaCl, pH 8.0 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

**Data**

&gt; 88 % as determined by reducing SDS-PAGE.

**For Research Use Only**

## Background

The low molecular weight phosphotyrosine phosphatase (LMW-PTP), also known as Acid phosphatase 1 (ACP1), belongs to the low molecular weight phosphotyrosine protein phosphatase family and are involved in the regulation of important physiological functions, including stress resistance and synthesis of the polysaccharide capsule. ACP1/LMW-PTP is an enzyme involved in platelet-derived growth factor-induced mitogenesis and cytoskeleton rearrangement. LMW-PTP is able to specifically bind and dephosphorylate activated PDGF receptor, thus modulating PDGF-induced mitogenesis. In vitro, LMW-PTP was found to efficiently dephosphorylate activated FcγRIIA and LAT, but not Syk or phospholipase Cγ2. The overexpression of LMW-PTP inhibited activation of Syk downstream of FcγRIIA and reduced intracellular Ca<sup>2+</sup> mobilization. It has been demonstrated that LMW-PTP is responsible for FcγRIIA dephosphorylation, and is implicated in the down-regulation of cell activation mediated by this ITAM-bearing immunoreceptor. In addition, ACP1 is a highly polymorphic phosphatase that is especially abundant in the central nervous system and is known to be involved in several signal transduction pathways.