

## Recombinant Human PPA1 Protein (His Tag)

**Catalog Number:** PDEH101009

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

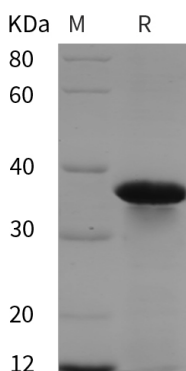
### Description

<b>Species</b>	Human
<b>Source</b>	E.coli-derived Human PPA1 protein Ser2-Asn289, with an N-terminal His & C-terminal His
<b>Calculated MW</b>	31.6 kDa
<b>Observed MW</b>	36 kDa
<b>Accession</b>	Q15181
<b>Bio-activity</b>	Not validated for activity

### Properties

<b>Purity</b>	> 95% as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 10 EU/mg of the protein as determined by the LAL method
<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 a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
<b>Reconstitution</b>	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

### Data



SDS-PAGE analysis of Human PPA1 proteins, 2 µg/lane of Recombinant Human PPA1 proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 36 kDa.

### Background

PPA1 (Inorganic pyrophosphatase 1, also PPase and IOPPP) is a 32-36 kDa cytoplasmic member of the PPase family of enzymes. It is ubiquitously expressed, and acts on di-(or pyro) phosphate, generating orthophosphate in a Mg<sup>2+</sup>-dependent manner. This activity can both generate energy for cells, or in the case of osteoblasts, provide raw material for calcification. The consumption of pyrophosphate may also remove inhibitors of enzymes such as guanylyl cyclase, and PPA1 itself is also reported to stimulate gene expression. Human PPA1 is 289 amino acids (aa) in length. There is one pyrophosphatase domain between aa 42-255, and two utilized acetylation sites at Lys 57 and Lys228. PPA1 is known to form homodimers. There is one potential alternative start site at Met46. Full-length human PPA1 shares 94% aa sequence identity with mouse PPA1.

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