

DESCRIPTION

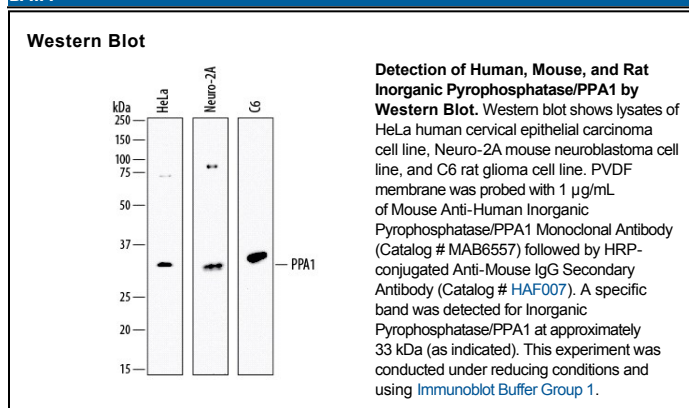
Species Reactivity	Human/Mouse/Rat
Specificity	Detects human Inorganic Pyrophosphatase/PPA1 in direct ELISAs and human, mouse, and rat Inorganic Pyrophosphatase/PPA1 in Western blots.
Source	Monoclonal Mouse IgG _{2B} Clone # 840941
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Inorganic Pyrophosphatase/PPA1 Met1-Asn289 Accession # Q15181
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 Mg²⁺-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.