

# PPA1 (H-62): sc-292158

## BACKGROUND

PPA1 (pyrophosphate phospho-hydrolase 1), also known as IOPPP (inorganic pyrophosphatase), PP1, PP or PPase, belongs to the PPase family of inorganic pyrophosphatases. Inorganic pyrophosphatases catalyze the intracellular conversion of pyrophosphate to inorganic phosphate, a key reaction for phosphate metabolism in cells. PPA1 is a ubiquitously expressed protein that localizes to the cytoplasm and is required for cell growth. It exists as a homodimer exhibiting magnesium dependent activity. The binding of two magnesium ions is required to stimulate PPA1 activity; however, both subunits in the homodimer are capable of binding four magnesium ions. The additional ions are useful in forming complexes with substrates and products. In addition, the activity of PPA1 can be inhibited by calcium.

## REFERENCES

1. Fisher, R.A., Turner, B.M., Dorkin, H.L. and Harris, H. 1974. Studies on human erythrocyte inorganic pyrophosphatase. *Ann. Hum. Genet.* 37: 341-353.
2. Fisher, R.A., Putt, W. and Harris, H. 1974. Further studies on erythrocyte inorganic pyrophosphatase: an examination of different mammalian species and human-Chinese hamster hybrid cells. *Ann. Hum. Genet.* 38: 171-178.
3. McAlpine, P.J., Mohandas, T., Ray, M., Wang, H. and Hamerton, J.L. 1976. Assignment of the inorganic pyrophosphatase gene locus (PP) to chromosome 10 in man. *Cytogenet. Cell Genet.* 16: 201-203.
4. Chern, C.J. 1976. Localization of the structural genes for hexokinase-1 and inorganic pyrophosphatase on region (pter → q24) of human chromosome 10. *Cytogenet. Cell Genet.* 17: 338-342.
5. Vihinen, M., Lundin, M. and Baltscheffsky, H. 1992. Computer modeling of two inorganic pyrophosphatases. *Biochem. Biophys. Res. Commun.* 186: 122-128.
6. Fairchild, T.A. and Patejunas, G. 1999. Cloning and expression profile of human inorganic pyrophosphatase. *Biochim. Biophys. Acta* 1447: 133-136.

## CHROMOSOMAL LOCATION

Genetic locus: PPA1 (human) mapping to 10q22.1; Ppa1 (mouse) mapping to 10 B4.

## SOURCE

PPA1 (H-62) is a rabbit polyclonal antibody raised against amino acids 228-289 mapping at the C-terminus of PPA1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

PPA1 (H-62) is recommended for detection of PPA1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PPA1 (H-62) is also recommended for detection of PPA1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PPA1 siRNA (h): sc-62850, PPA1 siRNA (m): sc-62851, PPA1 shRNA Plasmid (h): sc-62850-SH, PPA1 shRNA Plasmid (m): sc-62851-SH, PPA1 shRNA (h) Lentiviral Particles: sc-62850-V and PPA1 shRNA (m) Lentiviral Particles: sc-62851-V.

Molecular Weight of PPA1 monomer: 36 kDa.

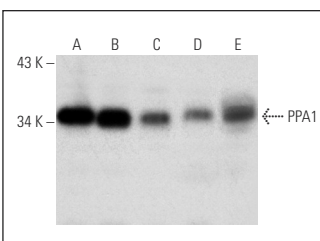
Molecular Weight of PPA1 homodimer: 70 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, IMR-32 cell lysate: sc-2409 or HeLa whole cell lysate: sc-2200.

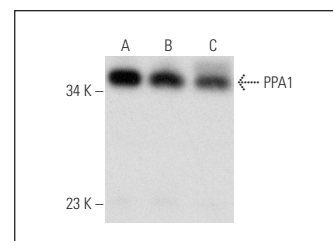
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PPA1 (H-62): sc-292158. Western blot analysis of PPA1 expression in MOLT-4 (A), IMR-32 (B), U-87 MG (C) and PC-12 (D) whole cell lysates and human liver tissue extract (E).



PPA1 (H-62): sc-292158. Western blot analysis of PPA1 expression in HeLa (A), A431 (B) and Hep G2 (C) whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.