

## PPM1A Protein, Human (His)

<b>Cat. No.:</b>	HY-P71227
<b>Synonyms:</b>	Protein Phosphatase 1A; Protein Phosphatase 2C Isoform Alpha; PP2C-Alpha; Protein Phosphatase IA; PPM1A; PPPM1A
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	P35813-1 (G2-W382)
<b>Gene ID:</b>	5494
<b>Molecular Weight:</b>	Approximately 45.0 kDa

### PROPERTIES

<b>AA Sequence</b>	<p>           G A F L D K P K M E      K H N A Q G Q G N G      L R Y G L S S M Q G      W R V E M E D A H T            A V I G L P S G L E      S W S F F A V Y D G      H A G S Q V A K Y C      C E H L L D H I T N            N Q D F K G S A G A      P S V E N V K N G I      R T G F L E I D E H      M R V M S E K K H G            A D R S G S T A V G      V L I S P Q H T Y F      I N C G D S R G L L      C R N R K V H F F T            Q D H K P S N P L E      K E R I Q N A G G S      V M I Q R V N G S L      A V S R A L G D F D            Y K C V H G K G P T      E Q L V S P E P E V      H D I E R S E E D D      Q F I I L A C D G I            W D V M G N E E L C      D F V R S R L E V T      D D L E K V C N E V      V D T C L Y K G S R            D N M S V I L I C F      P N A P K V S P E A      V K K E A E L D K Y      L E C R V E E I I K            K Q G E G V P D L V      H V M R T L A S E N      I P S L P P G G E L      A S K R N V I E A V            Y N R L N P Y K N D      D T D S T S T D D M      W         </p>
<b>Biological Activity</b>	Measured by its ability to dephosphorylate the peptide substrate, DLDPVPIGRFDRRVS(PO3)VAEE. The specific activity is 1060.04 nmol/min/mg.
<b>Appearance</b>	Solution.
<b>Formulation</b>	Supplied as a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	N/A
<b>Storage &amp; Stability</b>	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
<b>Shipping</b>	Shipping with dry ice.

### DESCRIPTION

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**Background**

PPM1A, an enzyme with broad specificity, functions as a negative regulator in various signaling pathways. It plays a pivotal role in the attenuation of TGF-beta signaling by dephosphorylating SMAD2 and SMAD3. This enzymatic action leads to the dissociation of SMAD2 and SMAD3 from SMAD4, their nuclear export, and ultimately, the termination of TGF-beta-mediated signaling. Additionally, PPM1A dephosphorylates PRKAA1 and PRKAA2, contributing to the modulation of cellular processes. Another significant aspect of its regulatory function involves the termination of TNF-alpha-mediated NF-kappa-B activation. In this context, PPM1A dephosphorylates and inactivates IKBKB/IKKB, contributing to the downregulation of NF-kappa-B signaling.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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