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**Product Data Sheet**


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Product Name: PPM1A Human  
 Cat. No.: GP22603  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Protein phosphatase 1A; EC 3.1.3.16; Protein phosphatase 2C isoform alpha; PP2C-alpha; IA; PPM1A; PP2CA; MGC9201.		
Amino Acid Sequence	MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD KDRWILMGAF LDKPKMEKHN AQGQGNGLRY GLSSMQGWRV EMEDAHTAVI GLPSGLESWS FFAVYDGHAG SQVAKYCCEH LLDHITNNQD FKGSAGAPSV ENVKNGIRTG FLEIDEHMRV MSEKKHGADR SGSTAVGVLI SPQHTYFINC GDSRGLLCRN RKVHFFTQDH KPSNPLEKER IQNAGGSVMI QRVNGSLAVS RALGDFDYKC VHKGKPTTEQL VSPEPEVHDI ERSEEDDQFI ILACDGIWDV MGNEELCDFV RSRLEVTDDL EKVCNEVVDI CLYKGSRDNM SVILICFPNA PKVSPEAVKK EAELDKYLEC RVEEIIKKQG EGVPDLVHVM RTLASENIPS LPPGGELASK RNVIEAVYNR LNPYKNDDTD STSTDDMW.		
Formulation	PPM1A protein solution (1mg/ml) contains 10mM Tris-HCl, pH7.5, 50mM NaCl, 2mM DTT, 1mM MnCl <sub>2</sub> and 20% glycerol.		

**Introduction**

Protein Phosphatase 2C alpha is a member of the PP2C family of Ser/Thr protein phosphatases. PP2C family members are known to be negative regulators of cell stress response pathways. This phosphatase dephosphorylates, and negatively regulates the activities of, MAP kinases and MAP kinase kinases. It has been shown to inhibit the activation of p38 and JNK kinase cascades induced by environmental stresses. This phosphatase can also dephosphorylate cyclin-dependent kinases, and thus may be involved in cell cycle control. Overexpression of this phosphatase is reported to activate the expression of the tumor suppressor gene TP53/p53, which leads to G2/M cell cycle arrest and apoptosis. Three alternatively spliced transcript variants encoding two distinct isoforms have been described. Protein phosphatase 2C (PP2C?) is a Mn<sup>2+</sup>- or Mg<sup>2+</sup>-

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

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dependent protein serine/threonine phosphatase that is essential for regulating cellular stress response in eukaryotes.

### Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Background

Protein Phosphatase 1A Alpha Isoform Human Recombinant produced in E.coli is a single, non-glycosylated polypeptide chain containing 418 amino acids and having a molecular mass of 46.6KDa (containing a 36 aa His tag, T7 gene 10 leader, Xpress™ Epitope). The protein coding region of PPM1A (amino acids 1-382) was cloned into an E. coli expression vector (BamHI/Hind3 site). PP2Ca was overexpressed in E. coli as a soluble His-tag fusion protein, and it was purified by conventional column chromatographic techniques.

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