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California Bioscience

Product Datasheet

Product Name	Protein Phosphatase 1A Alpha Isoform Human Recombinant
Cata No	CB500829
Source	*Escherichia Coli.*
Synonyms	Protein phosphatase 1A, EC 3.1.3.16, Protein phosphatase 2C isoform alpha, PP2C-alpha, IA, PPM1A, PP2CA, MGC9201.

Description

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(PP2Cα) is a Mn^{2+}- or Mg^{2+}-dependent protein serine/threonine phosphatase that is essential for regulating cellular stress response in eukaryotes.
Protein Phosphatase 1A Alpha Isoform Human Recombinant produced is a single, non-glycosylated polypeptide chain containing 382 amino acids and having a molecular mass of 46.6KDa (containing His tag, T7 gene 10 leader, XpressTM Epitope). The protein coding region of PP2Cα (amino acids 1-382) was cloned into an *E. coli* expression vector(*BamH*I/*Hind*Ш site). PPM1A was overexpressed in *E. coli* as a soluble His-tag fusion protein, and it was purified by conventional column chromatographic techniques.

Physical Appearance

Sterile filtered colorless solution.

Purity

Greater than 95.0% as determined by:
(a)Analysis by RP-HPLC.
(b)Analysis by SDS-PAGE.

Formulation

The protein contains 10mM Tris-HCl, pH7.5, 50mM NaCl, 2mM DTT, 1mM $MnCl_2$ and 20% glycerol.

Stability

Store at 4℃ if entire vial will be used within 2-4 weeks.
Store, frozen at -20℃ 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.

Sequence

MRGSHHHHHHGMASMTGGQQMGRDLYDDDDK
DRWILMGAFLDKPKMEKHN
AQGQGNGLRYGLSSMQGWRVEMEDAHTAVIGL
PSGLESWSFFAVYDGHAG
SQVAKYCCEHLLDHITNNQDFKGSAGAPSVENVK
NGIRTG FLEIDEHMRV
MSEKKHGADRSGSTAVGVLISPQHTYFINCGDSR
GLLCRNRKVHFFTQDH
KPSNPLEKERIQNAGGSVMIQRVNGSLAVSRALG
DFDYKCVHGKGPTEQL VSPEPEVHDI

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ERSEEDDQFI EGVPDLVHVM
ILACDGIWDVMGNEELCDFVRSRLEVTDDL RTLASENIPSLPPGGELASKRNVIEAVYNR
EKVCNEVVDTCLYKGSRDNMSVILICFPNAPKVSP LNPYKNDDTDSTSTDDMW
EAVKKEAELDKYLEC RVEEIIKKQG

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