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## Product Information

### Protein Phosphatase 1<sub>C</sub> from rabbit skeletal muscle

Product Number **P 1493**  
Storage Temperature -70 °C

Synonyms: PP1<sub>C</sub>

#### Product Description

Protein Phosphatase 1 is a growth factor stimulated, divalent cation-independent serine/threonine protein phosphatase involved in regulating numerous cellular processes such as glycogen metabolism, mitosis, and meiosis.

This product is the catalytic subunit (C) of protein phosphatase 1 (type 1 protein phosphatase), which is highly conserved in eukaryotes and has been found to play a key role in eukaryotic cell cycle and proliferation activities. The PP1<sub>C</sub> subunit shares approximately 40% sequence homology with several other highly expressed phosphatases and is expressed at micromolar concentrations in the cytoplasm. PP1<sub>C</sub> is inhibited by a number of toxins including mycrocystins, calyculins (clavosine A and B), nodularins, and okadaic acid. Studies suggest that the PP1<sub>C</sub> is phosphorylated at Thr<sup>320</sup> by cdc2 kinase, also resulting in inhibition.

The product is supplied as a solution in 50 mM Tris-HCl, pH 7.0, containing 14 mM 2-mercaptoethanol, 1 mM benzamidine, 0.1 mM PMSF, 1 mM EDTA, and 50% glycerol.

Specific Activity: approximately 2,000 units per mg protein (approximately 2 units per vial)

Unit Definition: One unit will release 1 nanomole of inorganic phosphate from <sup>32</sup>P-labeled phosphorylase per minute at pH 7.0 at 30 °C.

Purity: minimum 90% (SDS-PAGE)

#### Precautions and Disclaimer

This product is for laboratory research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

The product ships in dry ice and storage at -70 °C is recommended. Avoid freeze-thaw cycles. Store working aliquots at -70 °C. The product is stable for 24 to 48 hours at 2-8 °C.

#### References

1. Cohen, P., et al., Protein phosphatase-1 and protein phosphatase-2A from rabbit skeletal muscle. *Methods Enzymol.*, **159**, 390-408 (1988).
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3. Dawson, J.F., et al., Mutation of the toxin binding site of PP-1c: comparison with PP-2B. *Biochem. Biophys. Res. Commun.*, **270**, 543-549 (2000).
4. Young-Guen, K., et al., Cell cycle-dependent phosphorylation of mammalian protein phosphatase 1 by cdc2 kinase. *Proc. Natl. Acad. Sci. USA*, **94**, 2168-2173 (1997).
5. Damer, C.K., et al., Rapid Identification of Protein Phosphatase 1-binding Proteins by Mixed Peptide Sequencing and Data Base Searching. *J. Biol. Chem.*, **273**, 24396-24405 (1998).
6. Amick, G.D., et al., Protein phosphatase 2A is a specific protamine-kinase-inactivating phosphatase. *Biochem. J.*, **287**, 1019-1022 (1992).
7. Guo, H., and Damuni, Z., Autophosphorylation-activated protein kinase phosphorylates and inactivates protein phosphatase 2A. *Proc. Natl. Acad. Sci. USA*, **90**, 2500-2504 (1993).

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