

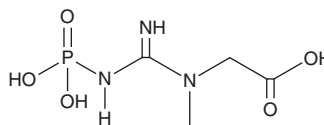
PRODUCT INFORMATION



Creatine Phosphate

Item No. 35598

CAS Registry No.: 67-07-2
Formal Name: N-[imino(phosphonoamino)methyl]-N-methyl-glycine
Synonym: Phosphocreatine
MF: C₄H₁₀N₃O₅P
FW: 211.1
Purity: ≥90%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Creatine phosphate is supplied as a solid. Aqueous solutions of creatine phosphate can be prepared by directly dissolving the solid in aqueous buffers. The solubility of creatine phosphate in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Creatine phosphate is a phosphorylated form of creatine that is involved in energy storage in skeletal muscle and brain.^{1,2} It is formed from creatine by creatine kinase. Creatine phosphate (10 mM) reduces hydrogen peroxide- and ferrous ion-induced increases in malondialdehyde (MDA) levels in rat heart microsomes.³ It also prevents hydrogen peroxide-induced decreases in aortic flow, minute work, and peak aortic pressure in isolated perfused rat hearts when used at a concentration of 10 mM. Brain levels of creatine phosphate decrease following mild traumatic brain injury in rats.⁴

References

1. Wallimann, T., Wyss, M., Brdiczka, D., *et al.* Intracellular compartmentation, structure and function of creatine kinase isoenzymes in tissues with high and fluctuating energy demands: The 'phosphocreatine circuit' for cellular energy homeostasis. *Biochem. J.* **281**(Pt 1), 21-40 (1992).
2. Wyss, M. and Kaddurah-Daouk, R. Creatine and creatinine metabolism. *Physiol. Rev.* **80**(3), 1107-1213 (2000).
3. Zucchi, R., Poddighe, R., Limbruno, U., *et al.* Protection of isolated rat heart from oxidative stress by exogenous creatine phosphate. *J. Mol. Cell. Cardiol.* **21**(1), 67-73 (1989).
4. Signoretti, S., Di Pietro, V., Vagnozzi, R., *et al.* Transient alterations of creatine, creatine phosphate, N-acetylaspartate and high-energy phosphates after mild traumatic brain injury in the rat. *Mol. Cell. Biochem.* **333**(1-2), 269-277 (2010).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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