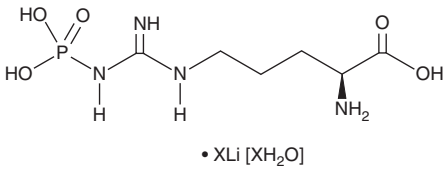
PRODUCT INFORMATION

Phospho-L-Arginine (lithium salt hydrate)

Item No. 23123

Formal Name: N^5-[imino(phosphonoamino)methyl]-L-ornithine, lithium salt, hydrate
Synonyms: L-Arginine-N^G-Phosphoric Acid, N^ω-Phospho-L-Arginine, L-Phosphoarginine
MF: $C_6H_{15}N_4O_5P \bullet XLi\ [XH_2O]$
FW: 254.2
Purity: ≥95%
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

Phospho-L-arginine (lithium salt hydrate) is supplied as a solid. A stock solution may be made by dissolving the phospho-L-arginine (lithium salt hydrate) in water. We do not recommend storing the aqueous solution for more than one day.

Description

Phospho-L-arginine is a phosphorylated form of L-arginine (Item No. 23703) and a highly diffusible, high-energy metabolite and phosphagen involved in energy storage in invertebrates including crustaceans, insects, and *Trypanosoma* species.[1,2] In the locust *L. migratoria*, phospho-L-arginine is found in the flight muscles, where it acts as both a buffer system and shuttle mechanism for high-energy phosphate.[3] Measurement of phospho-L-arginine by ^{31}P-NMR spectroscopy has been used to study invertebrate energy metabolism *in vivo*.[4,5]

References

1. Schoenenberger, B., Wszolek, A., Milesi, T., *et al.* Synthesis of N_ω-phospho-L-arginine by biocatalytic phosphorylation of L-arginine. *ChemCatChem* **9(1)**, 121-126 (2017).
2. Pereira, C.A. Arginine kinase: A potential pharmacological target in trypanosomiasis. *Infect. Disord. Drug Targets* **14(1)**, 30-36 (2014).
3. Schneider, A., Wiesner, R.J., and Grieshaber, M.K. On the role of arginine kinase in insect flight muscle. *Insect Biochem.* **19(5)**, 471-480 (1989).
4. Bailey, D.M., Peck, L.S., Bock, C., *et al.* High-energy phosphate metabolism during exercise and recovery in temperate and Antarctic scallops: An in vivo ^{31}P-NMR study. *Physiol. Biochem. Zool.* **76(5)**, 622-633 (2003).
5. Platzer, E.G., Thompson, S.N., Borchardt, D.B., *et al.* High energy phosphate metabolites observed by NMR in infective larvae of Haemonchus contortus. *J. Parasitol.* **81(3)**, 434-438 (1995).

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