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ProductInformation

Potassium phosphate monobasic
Cell Culture Tested

Product Number **P 5655**
Store at Room Temperature

Product Description

Molecular Formula: KH_2PO_4
Molecular Weight: 136.1
CAS Number: 7778-77-0
Synonyms: monopotassium phosphate, potassium dihydrogen phosphate

This product is cell culture and insect cell culture tested. It is suitable for use in cell culture and insect cell culture applications.

Potassium phosphate is a reagent with very high buffering capacity that is widely used in molecular biology, biochemistry, and chromatography. Potassium phosphate occurs in several forms: monobasic (KH_2PO_4), dibasic (K_2HPO_4), and tribasic (K_3PO_4). Most neutral potassium phosphate buffer solutions consist of mixtures of the monobasic and dibasic forms to varying degrees, depending on the desired pH. A table for preparation of 0.1 M potassium phosphate buffer at 25 °C using various proportions of potassium phosphate monobasic and potassium phosphate dibasic has been published.[1,2]

Some limitations of the usefulness of phosphate buffers include their precipitation of Ca^{2+} and Mg^{2+}, their inhibition of restriction enzyme activity, and their interference in protocols related to DNA ligation and bacterial transformation.[1] A study of the effect of freeze-thaw storage cycles on proteins in potassium phosphate and sodium phosphate buffer solutions has been reported.[3]

The use of high concentrations of potassium phosphate in the immobilization of affinity ligands onto epoxide-activated stationary phases has been reviewed.[4] A two-phase system of aqueous potassium phosphate and poly(ethylene glycol) for the isolation of *E. coli* β-galactosidase and β-galactosidase fusion proteins has been published.[5] The quantitation of nonionic surfactants in buffered solutions using strong cation and anion exchange HPLC guard columns and potassium phosphate solution has been investigated.[6]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, colorless solution.

References

1. Molecular Cloning: A Laboratory Manual, 3rd ed., Sambrook, J. F., et al., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 2001), p. A1.5.
2. Green, A. A., and Hughes, W. L., Protein Fractionation on the Basis of Solubility in Aqueous Solutions of Salts and Organic Solvents. Meth. Enzymol., **1**, 67-90 (1955).
3. Pikal-Cleland, K. A., et al., Protein denaturation during freezing and thawing in phosphate buffer systems: monomeric and tetrameric beta-galactosidase. Arch. Biochem. Biophys., **384(2)**, 398-406 (2000).

4. Wheatley, J. B., and Schmidt, D. E. Jr., Salt-induced immobilization of affinity ligands onto epoxide-activated supports. J. Chromatogr. A., **849(1)**, 1-12 (1999).
5. Enfors, S. O., et al., Combined use of extraction and genetic engineering for protein purification: recovery of beta-galactosidase fused proteins. Bioseparation, **1(3-4)**, 305-310 (1990).
6. Pardue, K., and Williams, D., Quantitative determination of non-ionic surfactants in protein samples, using ion-exchange guard columns. Biotechniques, **14(4)**, 580-583 (1993).

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