



QuantiChrom™ Phosphate Assay Kit

Phosphate (Pi) is one of the most important ion species in nature. Phosphate is present in all biological systems. It is a major constituent in minerals and fertilizers, and is a component of industrial wastewater. Thus accurate determination of phosphate concentration will find numerous applications in pharmacology, biomedical research, clinical chemistry, industrial process monitoring, environmental monitoring, etc.

Simple, direct and automation-ready procedures for measuring phosphate concentration in biological and environmental samples are becoming popular. BioAssay Systems' phosphate assay kit is designed to measure phosphate ion directly in samples without any pretreatment. The improved Malachite Green method utilizes the malachite green dye and molybdate, which forms a stable colored complex specifically with inorganic phosphate. The intensity of the color, measured at 620nm, is directly proportional to the phosphate concentration in the sample. The optimized formulation substantially reduces interference by substances in the raw samples.

APPLICATIONS

Direct Assays: Pi in serum, urine, saliva, sweat, tissue culture and mineralized samples.

Drug Discovery/Pharmacology: effects of drugs on Pi metabolism.

Food and Beverages: Pi determination.

Environment: Pi determination in water, soil and fertilizer.

KEY FEATURES

Sensitive and accurate. Linear detection range 0.30 μM (0.0028 mg/dL) to 50 μM (0.47 mg/dL) phosphate in 96-well plate assay.

Simple and high-throughput. The procedure involves addition of a single working reagent and incubation for 30 min. Can be readily automated as a high-throughput assay in 96-well plates for thousands of samples per day.

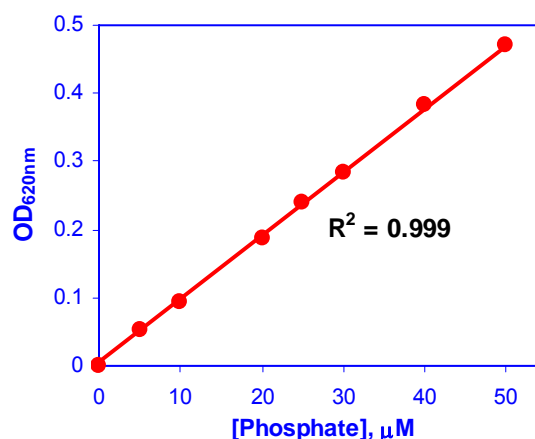
Improved reagent stability and versatility. The optimized formulation has greatly enhanced the reagent and signal stability. Assays can be executed in cuvet or 96-well plate.

Low interference in biological samples. No pretreatments are needed. Assays can be directly performed on raw biological samples i.e., in the presence of lipid, protein and minerals.

QuantiChrom™ Phosphate Assay Kit

Each kit is sufficient for 500 assays in 96-well plate. Kit includes:

- 1 x 50mL Reagent
- 1 x 14mL 0.28 mg/dL or 30 μM Phosphate Standard
- 1 x 14mL Blank Control



Standard Curve in 96-well plate in assay

REFERENCES:

- [1]. Cogan EB, Birrell GB, Griffith OH. A robotics-based automated assay for inorganic and organic phosphates. *Anal Biochem.* 1999; 271(1):29-35.
- [2]. Ekman P, Jager O. Quantification of subnanomolar amounts of phosphate bound to seryl and threonyl residues in phosphoproteins using alkaline hydrolysis and malachite green. *Anal Biochem.* 1993; 214(1):138-141.
- [3]. Fisher DK, Higgins TJ. A sensitive, high-volume, colorimetric assay for protein phosphatases. *Pharm Res.* 1994; 11(5):759-763.