

Phosphate Assay Kit (Colorimetric - UV absorption) ab219938

[1 Image](#)

Overview

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|---------------------------|---|
| Product name | Phosphate Assay Kit (Colorimetric - UV absorption) |
| Detection method | Colorimetric |
| Sample type | Urine, Serum, Plasma, Other biological fluids, Cell Lysate, Tissue Lysate |
| Assay type | Quantitative |
| Sensitivity | 0.2 μ M |
| Species reactivity | Reacts with: Mammals, Other species |
| Product overview | Phosphate Assay Kit (Colorimetric - UV absorption) (ab219938) has been developed for measuring the activity of any phosphate-generating enzyme such as ATPases or phosphatases. In the presence of inorganic phosphate, the MESG reagent is converted to 2-amino-6-mercapto-7-methylpurine by purine nucleoside phosphorylase with absorption wavelength shift to red. This feature has been used to develop our convenient MESG-based phosphate assay kit, an alternative to hazardous radioactive methods. The MESG substrate gives an absorbance increase at OD 360 nm on phosphorylase at pH 6.5-8.5. The assay is shown to quantitate phosphate at the final concentration as low as 0.2 μ M in cell lysates or biological fluids. |
| Notes | Phosphate is involved in many biological processes. For example, phosphatases, ATPases and several other enzymes catalyze biochemical reactions in which inorganic phosphate (Pi) is released from a phosphoester substrate. The detection of many phosphoester-metabolizing enzymes is difficult because suitable substrates are not available. It is usually necessary to determine inorganic phosphate release using tedious colorimetric assays or radioisotope based methods. |
| Platform | Microplate reader |

Properties

Storage instructions Store at -20°C. Please refer to protocols.

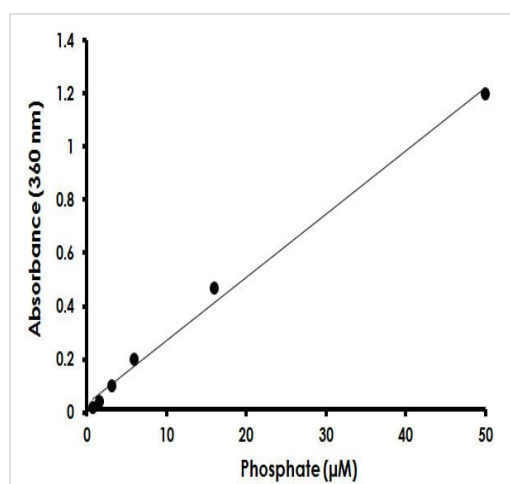
| Components | 200 tests |
|--------------------------------------|-----------|
| 1 mM KH ₂ PO ₄ | 1 x 1ml |
| Assay Buffer | 1 x 10ml |

| Components | 200 tests |
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| MESG Substrate (10 mg) | 1 vial |
| Purine Nucleoside Phosphorylase (1 mg) | 1 vial |

Relevance

Phosphate is one of the most important of the inorganic ions in biological systems. It functions in a variety of roles. One of the most important roles is as a molecular switch, turning enzyme activity on and off through the mediation of the various protein kinases and phosphatases in biological systems. Phosphate is also of great importance in mineralization processes and is a primary stimulus of algal blooms frequently found in bodies of fresh water, due to run-off from areas of high fertilizer use.

Images



Typical Phosphate standard calibration curve. Phosphate dose response was measured on a 96 well UV plate using a SpectraMax Plus microplate reader (Molecular Devices). As low as 0.2 µM phosphate can be detected with 30 minutes incubation.

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(ab219938)

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