Phosphorus Microplate Assay Kit

User Manual

Catalog # FTA0107

(Version 1.2C)

Detection and Quantification of Phosphorus Content in Serum, Urine, Saliva and Other biological fluids Samples.

For research use only. Not for diagnostic or therapeutic procedures.

I. INTRODUCTION

Phosphorus is an important part of several of your body's processes. It helps with bone growth, energy storage, and nerve and muscle production. Many foods, especially meats and dairy products, contain phosphorus, so it's usually easy to get enough of this mineral in your diet. Most of your body's phosphorus is contained in your bones and teeth. However, some is in your blood. Hyperphosphatemia is when you have too much phosphorus in your blood. Hypophosphatemia is the opposite: having too little phosphorus. Various conditions, including liver disease and vitamin D deficiency, can cause your blood phosphorus level to become too high or too low.

Phosphorus Microplate Assay Kit provides a sensitive colorimetric means to directly measure phosphorus concentration in various samples. Phosphorus concentration is based on the reaction of phosphorus with ammonium molybdate to form a blue colored product. The color intensity at 620 nm is directly proportional to phosphorus concentration in the sample.

II. KIT COMPONENTS

Component	Volume	Storage
96-Well Microplate	1 plate	
Assay Buffer	30 ml x 4	4 °C
Reaction Buffer	5 ml x 1	4 °C
Dye Reagent	Powder x 1	4 °C
Standard (0.4 mmol/L)	1 ml x 1	4 °C
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Note:

Dye Reagent: add 5 ml distilled water to dissolve before use.

III. MATERIALS REQUIRED BUT NOT PROVIDED

1. Microplate reader to read absorbance at 620 nm
2. Distilled water
3. Pipettor, multi-channel pipettor
4. Pipette tips
5. Mortar
6. Centrifuge
7. Timer

IV. SAMPLE PREPARATION

1. For serum and other biological fluids sample

Add 100 µl sample and 900 µl Assay buffer into the microcentrifuge tube, mix, centrifuged at 8,000g 25 °C for 10 minutes, take the supernatant into a new centrifuge tube for detection.

V. ASSAY PROCEDURE

Add following reagents into the microplate:

Reagent	Blank	Standard	Sample
Reaction Buffer	50 µl	50 µl	50 µl
Dye Reagent	50 µl	50 µl	50 µl
Distilled water	100 µl	--	--
Standard	--	100 µl	--
Sample	--	--	100 µl
Mix, wait for 10 minutes, measured at 620 nm and record the absorbance.			

Note:

1) Perform 2-fold serial dilutions of the top standards to make the standard curve.

2) The concentrations can vary over a wide range depending on the different samples. For unknown samples, we recommend doing a pilot experiment & testing several doses to ensure the readings are within the standard curve range.

VI. CALCULATION

1. According to the serum sample

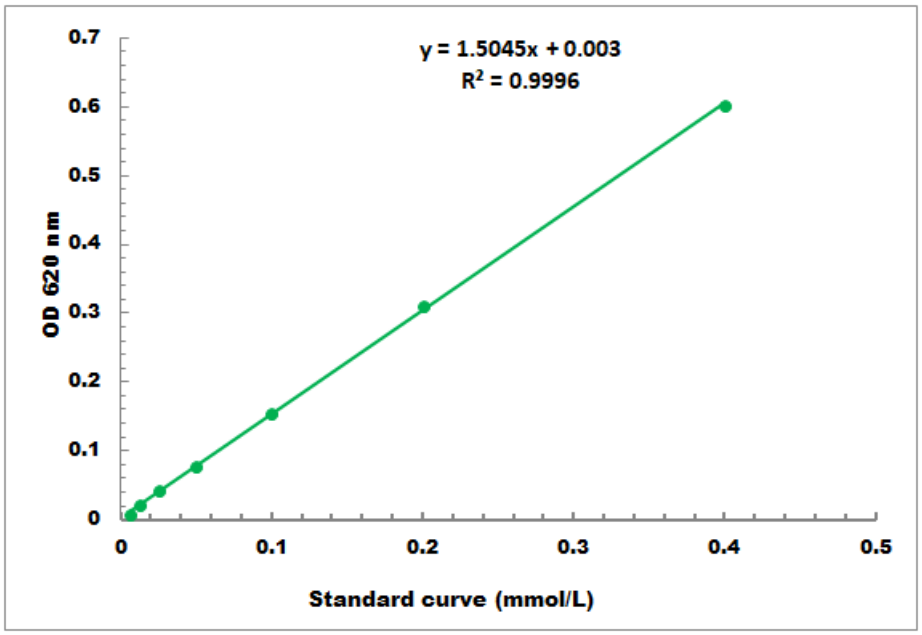
$$\text{Phosphorus (mmol/L)} = C_{Standard} \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) \times 10$$

$$= 4 \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank})$$

$C_{Standard}$: the concentration of Standard, 0.4 mmol/L.

VII. TYPICAL DATA

The standard curve is for demonstration only. A standard curve must be run with each assay.



Detection Range: 0.01 mmol/L - 0.4 mmol/L

VIII. TECHNICAL SUPPORT

For troubleshooting, information or assistance, please go online to www.cohesionbio.com or contact us at techsupport@cohesionbio.com

IX. NOTES