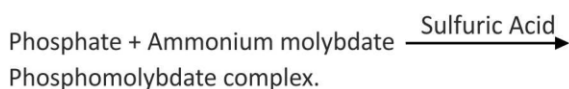


INTENDED USE : This reagent kit is intended for "*in vitro*" quantitative determination of PHOSPHORUS concentration in serum plasma and urine.

CLINICAL SIGNIFICANCE : Phosphorus in blood exists in two forms as inorganic Phosphate & organophosphate esters mainly 2, 3-diphosphoglyceric acid, ATP etc. The inorganic Phosphate is the fraction of clinical interest. Serum inorganic Phosphorus levels are closely tied to bone metabolism, renal function, vitamin D levels and parathyroid hormone status.

PRINCIPLE : Inorganic Phosphate reacts with molybdate to form a heteropolyacid complex. The sulfuric acid eliminates the need to prepare a protein free filtrate. The absorbance at 340 nm is directly proportional to the inorganic phosphorus level in the sample.



REAGENT COMPOSITION :

Reagent 1: Phosphorus Reagent

Standard: 5 mg/dl

MATERIALS REQUIRED BUT NOT PROVIDED :

- Clean & Dry Glassware.
- Micropipettes & Tips.
- Colorimeter or Bio-Chemistry Analyzer.

SAMPLES : Serum free of haemolysis. Urine, diluted with distilled water (1:10).

STABILITY OF REAGENT : When Stored tightly closed at 2°C to 8°C temperature protected from light and contaminations prevented during their use; reagents are stable up to the expiry date stated on the label.

WORKING REAGENT : The Reagent is ready for use.

ASSAY PROCEDURE :

	Blank	Standard	Sample
Reagent	1000 µl	1000 µl	1000 µl
Standard	-	10 µl	-
Sample	-	-	10 µl

Mix and read the optical density after 5 - minute incubation at 37°C temperature.

CALCULATION :

$$\text{Phosphorus Conc. (mg/dl)} = \frac{\text{OD of Sample}}{\text{OD of Standard}} \times \text{Conc. of Standard}$$

GENERAL SYSTEM PARAMETERS :

Reaction Type	End Point (Increasing)
Wavelength	340 nm
Light Path	1cm
Reaction Temperature	37°C
Blank / Zero Setting	Reagent
Reagent Volume	1000 µl
Sample Volume	10 µl
Incubation Time	5 Minutes
Standard Concentration	5.0 mg/dl
Low Normal	2.7 mg/dl
High Normal	4.5 mg/dl
Linearity	15.0 mg/dl

LINEARITY : Reagent is Linear up to 15 mg/dl.

Dilute the sample appropriately and re-assay if Phosphorus concentration exceeds 15 mg/dl.

Multiply result with dilution factor.

REFERENCE NORMAL VALUE:

Serum : Children : 4.0 - 5.5 mg/dl

Adults : 2.7 - 4.5 mg/dl

URINE : 0.40 - 1.3 gm/24h.

It is recommended that each laboratory establish its own expected range.

QUALITY CONTROL : For accuracy it is necessary to run known controls with every assay.

SENSITIVITY / LIMIT DETECTION : The Lower Limit of detection is 1 mg/dl.

LIMITATION & PRECAUTIONS :

- Storage conditions as mentioned on the kit to be adhered.
- Do not freeze or expose the reagents to higher temperature as it may affect the performance of the kit.
- Before the assay bring all the reagents to room temperature.
- Avoid contamination of the reagent during assay process.
- Use clean glassware free from dust or debris.

BIBLIOGRAPHY :

Daly J., Erthlingshausen G. : Clin. Chem. 18, 263 (1972).

Mfd. In India By:

PRECILAB REAGENTS & CHEMICALS PVT. LTD.

A / F-6 & F-8, Udyog Bhawan - 2, Plot K - 3, MIDC,
Ambernath (E), Thane, Maharashtra - 421506, INDIA.