Biomaghreb

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CE

INORGANIC PHOSPHORUS

U.V Method

Reagent for the quantitative determination
of inorganic phosphorus in human plasma and urine

IN VITRO DIAGNOSTIC USE

IVD

REF	**06011**	4 x 80 ml (320 T)	**R1:** 4 x 80 ml	**R2:** 1 x 10 ml
REF	**06028**	2 x 100 ml (200 T)	**R1:** 2 x 100 ml	**R2:** 1 x 10 ml
REF	**06035**	2 x 200 ml (400 T)	**R1:** 4 x 100 ml	**R2:** 1 x 12 ml

CLINICAL SIGNIFICANCE

Phosphorus is an essential mineral for many cellular reactions, particularly for bone formation and the cell's energy mechanisms. Decreased phosphorus levels can cause hypervitaminosis D, hyperthyroidism, or kidney dysfunction. Hyperphosphatemia is often associated with liver or kidney dysfunction or bone metastases. Clinical diagnosis should be made taking into account clinical and laboratory data.

PRINCIPLE

Inorganic phosphorus is dosed according to the following reaction

Ammonium Molybdate + Sulfuric Acid —(Phosphore)→ phospho-molybdate Complex

The absorbance of this complex at 340 nm is proportional to the phosphorus concentration.

REAGENT COMPOSITION

Reagent 1	Sulfuric acid Ammonium Molybdate Detergent OS	200 mmol/l 0.40 mmol/l
Reagent 2	Standard	5 mg/dl 50 mg/l 1.61 mmol/l

SAFETY CAUTIONS

Biomaghreb reagents are intended for use by qualified personnel for in vitro use (do not pipette by mouth).

- Consult the current MSDS available on request or on www.biomaghreb.com.
- Check the integrity of the reagents before use.
- Disposal of waste: comply with the legislation in force.

For safety reasons, treat any specimen or reagent of biological origin as potentially infectious. Observe the applicable legislation.

REAGENT PREPARATION

Reagents are ready to use.

SAMPLE PREPARATION

Serum, plasma (not hemolyzed).
Urine diluted 1/10 with distilled water.

PRESERVATION AND STABILITY

Until the expiry date indicated on the label of the box .

ADDITIONAL EQUIPMENT

- Equipement de base du laboratoire d'analyses médicales ;
- Spectrophotomètre ou Analyseur de biochimie clinique.

LIMITS

If the sample is lipemic, make a blank by mixing 10 µl of sample with 1 ml of 9g/l NaCl solution and read off the optical density at 340 nm.
The standard is an aqueous solution.
It is preferable to use standards of serum origin in particular, for reasons of viscosity on automatic analysers.

QUALITY CONTROL

External quality control program.
It is recommended to control in the following cases:

- At least one test per series.
- Change of reagent bottle.
- After maintenance work on the analyzer.

If a control value is outside the confidence limits, repeat the procedure using the same control.
Use normal and pathological control sera.

CALIBRATION

The standard of the kit (Reagent 2) or any calibrator connected to a method or reference material.
The frequency of calibration depends on analyzer performance and reagent storage conditions.
Recalibration is recommended in the following cases:

1. Changing the reagent lot ;
2. After maintenance work on the analyzer; and
3. Control values are outside the confidence limits.

LINEARITY

The method is linear up to 200 mg/l (20 mg/dl – 6.46 mmol/l).

PROCEDURE

Wavelength: 340 nm
Temperature : 20°C - 25°C
Tank : 1 cm thick
Adjust the spectrophotometer zero on the reagent blank.

	Blank	Standard	Sample
Standard	- -	10 µl	- -
Sample	- -	- -	10 µl
Working Solution	1 ml	1 ml	1 ml
Mix and read optical densities after a 5-minute incubation at room temperature. Staining is stable 30 minutes.			

CALCULATION

$$\text{Phosphorus} = \frac{\text{OD. Sample}}{\text{OD Standard}} \times n$$

n = Standard Value

n = 5 mg/dl ;
n = 50 mg/l ;
n = 1.61 mmol/l.

REFERENCES VALUES

Adults	2.5 - 5 mg/dl 25 - 50 mg/l 0.81 - 1.61 mmol/l
Children	4 - 7 mg/dl 40 - 70 mg/l 1.29 - 2.26 mmol/l
Urine	16.5 - 48.5 mmol/24h 0.5 - 1.5 g/24h

REFERENCES

Daly J.A, Ertingshaussen G., Clin. Chem., 18, 263 (1972).

Manufacturer | Use by | In Vitro Diagnostic | Temperature Limitation | Catalogue number | See insert | Store away from light | Sufficient for < n > essais | Batch number