

BioMed-Phosphorous



REF: PH123100 (2x50 ml)

INTENDED FOR USE

For the quantitative of inorganic phosphorus in serum and urine

PRINCIPLE :

Inorganic phosphorus react with ammonium molybdate in an acid medium to form a phosphomolybdate complex which absorbs light at 600-675 nm .

The absorbance at this wavelength is directly proportional to the amount of inorganic phosphorus present in the sample .

Inorganic phosphorus + H₂SO₄ + Ammonium molybdate → Phosphomolybdate complex

SPECIMEN COLLECTION :

Non hemolyzed fresh serum .

Urine 24/h diluted 1:10 with distilled water and acidified with 2/3 drops of HCl 23% .

Note : Plasma (only with heparin) should not be used, since anticoagulants may produce falsely low values .

serum should be separated from the clot as soon as possible.

Do not use hemolyzed samples .

Inorganic phosphorus in serum is reported stable for 7 days at + 2-8°C and approximately 3 weeks when stored in the refrigerator at - 20°C and protected against evaporation .

Shake and bring the samples to room temperature before using .

REAGENTS COMPOSITION:

Reagent (1)	Phosphorus standard	5 mg/dL (1.615 mmol/L
Reagent (2)	Sodium Chloride Detergent	1.2 % < 1%
Reagent (3)	Ammonium molybdate Sulfuric Acid 96%	< 1% < 2%

PACKAGE : Collection & storage .

Store at + 2-8°C . Protect from light exposure .

Stable till the expiration date reported upon the package .

After the unsealing and the taking of the reagent , it is advised to close up the bottle immediately in order to avoid evaporation , direct exposure to light and bacterial contamination .

PRECAUTIONS & WARNING:

Do not pipette by mouth .

The preparation , according to current regulation , is classified as not dangerous .

The total concentration of non active components (preservatives, detergents, stabilizers) is below the minimum required for citation .

Anyway handle with care , avoid ingestion , avoid contact with eyes , skin and mucous membranes

The samples must be handled as potentially infected from HIV or Hepatitis . .

REAGENT PREPARATION & STABILITY :

Ready to use liquid reagent . The reagent must be at room temperature (+15-25°C) before using .

The reagent is limp and colourless . Stable until the date reported on the label Reagent's yellow color.

REQUIRED MATERIALS NOT PROVIDED :

General Laboratory Equipment and instrumentations .

PROCEDURE :

Wavelength	600-675 nm
Optical path :	1 cm light path
Temperature :	20-25°C
Reading :	Against blank reagent
Assay type :	End Point

Pipetting in tubes :

	BLANK	STANDARD	SAMPLE
Reagent (R2)	500 µL	500 µL	500 µL
Reagent (R3)	500 µL	500 µL	500 µL
Standard (R1)	-----	50 µL	
Sample	-----	-----	50 µL
Distilled Water	50 µL	-----	

Mix, incubate for 15 min room temperature (+ 15-25°C) and read sample and standard extinction , against blank reagent .

Color is stable at least 60 min at room temperature .

Volumes can be proportionally modified .

This methodology describes the manual procedure to use the kit .

For automated procedure , ask for specific application .

CALCULATION:

$$\text{serum inorganic phosphorus mg/dl} = \frac{(\text{A}) \text{ Sample}}{(\text{A}) \text{ Standard}} \times 5$$

Urine 24/h :

$$\text{phosphorus mg/24h} = \frac{(\text{A}) \text{ Sample}}{(\text{A}) \text{ Standard}} \times 5 \times 10 (\text{ Dil. Fact.}) \times \text{Urine Vol. 24/h (dl)}$$

Unit conversion:

$$\text{mg/dl} \times 0.0323 = \text{mmol/l}$$

EXPECTED VALUES :

SERUM :

Children up to 12years old	4.5-6.7 mg/dl	1.45-2.16 mmol/l
Adults	2.7-4.5 mg/dl	0.87-1.45 mmol/l

URINE :

Adults 400-1300 mg/24h 12.9-42.0 mmol/24h
The above mentioned values are to be considered as a reference .
It is strongly recommended that each laboratory establish its own normal

WASTE DISPOSAL :

The disposal of the product must be in accordance with local regulation concerning waste disposal .

QUALITY CONTROL :

It is recommended to execute the quality control at every kit utilization to verify that values are within the reference range indicated by the methodology.

PERFORMANCE :

MEASURE INTERVAL / LINEARITY :	0.39-14 mg/dl
DETECTION LIMIT :	0.39 mg/dl
SENSITIVITY :	0.3 mg/dl = 0.00699A

INTRA-ASSAY PRECISION : n=20

LOW LEVEL	M = 3.49 mg/dl	C.V = 2.66%
MEDIUM LEVEL	M = 5.72 mg/dl	C.V = 1.39%
HIGH LEVEL	M = 17.09 mg/dl	C.V = 2.24%

INTER-ASSAY PRECISION : n=20

LOW LEVEL	M = 3.51 mg/dl	C.V = 0.57%
MEDIUM LEVEL	M = 5.85 mg/dl	C.V = 2.24%
HIGH LEVEL	M = 17.70 mg/dl	C.V = 3.50%

INTER ANALYZED		
CORRELATION	r = 0.999	n=60
LIN. REGRESSION	y = 1.02 × - 0.06	n=60

INTERFERENCE:

Interferences are negligible up to :		
Glucose	600 mg/dl	Albumin 20 g/dl
Triglycerides	500 mg/dl	

METHOD LIMITATIONS:

For concentration higher than 14 mg/dl repeat the measure on a sample diluted 1:2 with saline solution multiply the results × 2 .

Do not use hemolyzed or icteric specimens .

Important interference with Bilirubin from 12 mg/dl

Important interference with Hemoglobin from 0.15 g/dl

Presence of Hb and/or Bilirubin in the above mentioned concentrations , causes a 10% increase in inorganic phosphorus values

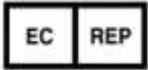
For through evaluation of the interfering substances ,consult : Young , D. S ,et al , Clin , Chem , 21:1 D (1975) .

REFERENCES :

Erthinghasausen G , Clin , Chem , 18, 263 (1972) .

Vassault , A et al , Ann , Bio , Clin , 44, 686 , (1986) .

	Consult Instructions for Use
	Caution, Consult accompanying
	In Vitro Diagnostic Medical
	Temperature Limitation
	Manufacturer
	Authorized Representative in the European Community
	Catalogue Number
	Batch Code
	Use by

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