Quantitative determination of Uric Acid by means of photometric method.

Only for in vitro use in clinical laboratory (IVD).

Clinical Significance
Uric acid is the end product of the purine metabolism. In gout, the most common complication of hyperuricemia, increased serum levels of uric acid lead to formation of monosodium urate crystals around the joints. Further causes of elevated blood concentrations of uric acid are renal diseases with decreased excretion of waste products, starvation, drug abuse and increased alcohol consume as well as use of certain medications. High uric acid levels also constitute an indirect risk factor for coronary heart disease. Hypouricemia is seldom observed and associated with rare hereditary metabolic disorders.

Principle
Uric acid + H₂O + Uricase → Allantoin + H₂O₂
H₂O₂ + 4-Aminoantipyrine + Peroxidase → Red Quinoneimine dye + H₂O
+ Phenolic Compound

Reagents
Each Uric Acid kit contains
Uric Acid Reagents and Standard with composition of:
- Phosphate Buffer
- Uricase
- POD (Peroxidase)
- 4 AAP (4-Aminoantipyrin)
- Chromogen
- Surfactant and Stabilizers

Uric Acid STD
Uric Acid aqueous primary standard 8 mg/dl

Reagent Preparation
Reagent and Standard are ready to use.

Stability
All the components of the kit are stable until the expiration date on the label when stored at 2-8ºC, protected from light and contamination prevented during their use. Do not use reagents over the expiration date.

Uric Acid STD: Stable up to expiry when stored tightly closed at 2-8ºC, protected from light and contamination prevented.

Specimens
Serum, plasma. Stability of the sample: 3-5 days at 2-8ºC.

Procedure
Assay Conditions
- Wavelength: 505 nm (490-550 nm).
- Light Path: 1 cm.
- Temperature: 37ºC/ R.T.

1. Pipette into clean dry test tubes labeled as Blank, Standard, and Sample:

<table>
<thead>
<tr>
<th></th>
<th>Blank</th>
<th>Standard</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reagent (ml)</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Standard (µl)</td>
<td>--</td>
<td>20</td>
<td>--</td>
</tr>
<tr>
<td>Sample (µl)</td>
<td>--</td>
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<td>20</td>
</tr>
</tbody>
</table>

2. Mix and incubate for 10 minutes at 37ºC or 15 minutes at room temperature (15-25ºC).
3. Adjust the instrument to zero with Blank of reagent.
4. Read the absorbance (A) of the samples and standard within 30 minutes, against the Blank.

Calculation
Uric Acid (mg/dl) = \frac{(A) \text{Sample} - (A) \text{Standard} \times 8}{\text{Standard conc.}}

Quality Control
Commercially available normal and pathological control sera are recommended to monitor the performance of the procedure. If control values are found outside the defined range, check the instrument, reagents and calibrator for problems.

Reference Values
Serum/Plasma (Male) 3.4-7.0 mg/dl
Serum/Plasma (Female) 2.5-6.0 mg/dl

Notes
1. Reagents must be stored at 2-8ºC till expiry.
2. If a larger volume of reagent is required for the absorbance reading, requisite volumes can be taken in multiples keeping the same ratio of reagent specimen/standard.
3. The rate of color development of enzyme reagent can be reduced by ensuring storage of reagent (highly photosensitive) at 2-8ºC.

Literatures

Manufactured by: Asritha Diatech, Hyderabad.

Marketed by: Euro Diagnostic Systems Pvt. Ltd.

Order Information
4×25 ml
Store at 2-8ºC

URIC ACID
URICASE-PAP, Liquid Mono Reagent

Serum/Plasma (Male) 3.4-7.0 mg/dl
Serum/Plasma (Female) 2.5-6.0 mg/dl

(These values are for orientation purpose).

It is suggested that each laboratory establish its own reference range.