**URIC ACID (SINGLE REAGENT)**

Cat. No. | Pack Name | Packaging (Content)
--- | --- | ---
BLT00062 | UA SINGLE 200 | R1: 4 x 50 ml, R2 standard: 1 x 5 ml

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**INTENDED USE**
Diagnostic reagent for quantitative in vitro determination of Uric Acid in human serum, plasma and urine.

**CLINICAL SIGNIFICANCE**
Uric acid is a metabolite of purines, nucleic acids and nucleoproteins, consequently, abnormal levels may be indicative of a disorder in the metabolism of these substances. Hyperuricaemia may be observed in renal dysfunction, gout, leukemia, polycythaemia, atherosclerosis, diabetes and hypothyroidism. Decreased levels are present in patients with Wilson’s Disease.

**PRINCIPLE**
The series of reactions involved in the assay system is as follows:

1. Uric acid is oxidised to allantoin by uricase with the production of H₂O₂.
2. The peroxidase reacts with 4-aminooantipyrine (4-AAP) and DHBS in the presence of peroxidase to yield a quinoneimine dye. The absorbance of this dye at 505 nm is proportional to uric acid concentration in the sample.

**REAGENT COMPOSITION**
Reagent is liquid, ready to use.

**STABILITY AND STORAGE**
The unopened reagents are stable till the expiry date stated on the bottle and kit label when stored at 2–8°C.

**SPECIMEN COLLECTION AND HANDLING**
Use unheparinized serum or plasma and urine. It is recommended to follow NCCLS procedures (or similar standardized conditions).

**REAGENT PREPARATION**
Reagent of the kit is not classified like dangerous but contains less than 0.1% lif-threatening substance.

**ASSAY PROCEDURE**
Wavelength: 505/670 nm
Cuvette: 1 cm

**ASSAY PARAMETERS FOR PHOTOMETERS**

<table>
<thead>
<tr>
<th>Mode</th>
<th>End Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength 1 (nm)</td>
<td>505</td>
</tr>
<tr>
<td>Wavelength 2 (nm)</td>
<td>670</td>
</tr>
<tr>
<td>Sample Volume (µl)</td>
<td>12.5/25</td>
</tr>
<tr>
<td>Reagent Volume (µl)</td>
<td>500/1000</td>
</tr>
<tr>
<td>Incubation time (min.)</td>
<td>10</td>
</tr>
<tr>
<td>Incubation temp. (°C)</td>
<td>37</td>
</tr>
<tr>
<td>Normal Low (mg/dl)</td>
<td>3.5</td>
</tr>
<tr>
<td>Normal High (mg/dl)</td>
<td>7.2</td>
</tr>
<tr>
<td>Linearity Low (mg/dl)</td>
<td>0.49</td>
</tr>
<tr>
<td>Linearity High (mg/dl)</td>
<td>25</td>
</tr>
</tbody>
</table>

**QUALITY CONTROL**
For quality control ERBA NORM, Cat. No. BLT00080 and ERBA PATH, Cat. No. BLT00081 are recommended.

**EXPECTED VALUES**

**Serum:**

- Adult:
  - Male: 3.5 – 7.2 mg/dl
  - Female: 2.6 – 6.0 mg/dl
- Urine, 24 h: average diet: 250 – 750 mg/dl
  - high-purine diet: < 1000 mg/dl
  - low-purine diet: < 480 mg/dl
  - purine-free diet: < 420 mg/dl

It is recommended that each laboratory verify this range or derives reference interval for the population it serves.

**PERFORMANCE DATA**
Data contained within this section is representative of performance on ERBA XL systems. Data obtained in your laboratory may differ from these values.

**PRECISION**

<table>
<thead>
<tr>
<th>Within run (n=20)</th>
<th>Mean (mg/dl)</th>
<th>SD (mg/dl)</th>
<th>CV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1</td>
<td>11.852</td>
<td>0.142</td>
<td>1.20</td>
</tr>
<tr>
<td>Sample 2</td>
<td>8.946</td>
<td>0.165</td>
<td>1.85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Run to run (n=20)</th>
<th>Mean (mg/dl)</th>
<th>SD (mg/dl)</th>
<th>CV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1</td>
<td>11.653</td>
<td>0.375</td>
<td>3.22</td>
</tr>
<tr>
<td>Sample 2</td>
<td>5.011</td>
<td>0.181</td>
<td>3.61</td>
</tr>
</tbody>
</table>

**COMPARISON**
A comparison between XL-Systems Uric Acid (y) and a commercially available test (x) using 40 samples gave following results:

\[ y = 1.166 x + 0.21 \\ r = 0.999 \]

**INTERFERENCES**
Following substances do not interfere:
- haemoglobin up to 10 g/l, bilirubin up to 40 mg/dl, triglycerides up to 2000 mg/dl.

**WARNING AND PRECAUTIONS**
For in vitro diagnostic use. To be handled by entitled and professionally educated persons.

Reagent of the kit is not classified like dangerous but contains less than 0.1% sodium azide - classified as very toxic and dangerous substance for the environment.

**WASTE MANAGEMENT**
Please refer to local legal requirements.
REFERENCES