DETERMINATION OF OXALATE IN URINE (SEMI) AUTOMATIC METHOD

Enzymatic method
Suitable for all analyzers – 30 tests
Product insert with instructions for automated procedures
Stability reagents > 3 year after production
Citrate / Oxalate controls available

Linearity: 1500 µmol/l
Mean CV’s: 1.76 %
Mean recovery: 100.1 %

<table>
<thead>
<tr>
<th>Product name</th>
<th>Product no.</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxalate - AUT Reagent Set</td>
<td>3098</td>
<td>30 tests</td>
</tr>
<tr>
<td>Citrate / Oxalate Control Normal Level</td>
<td>3084</td>
<td>10 x 2 ml</td>
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<tr>
<td>Citrate / Oxalate Control High Level</td>
<td>3085</td>
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OXALATE AUT

OXALATE AUTOMATED – ENZYMATIC METHOD

DETERMINATION OF OXALATE IN URINE (SEMI) AUTOMATIC METHOD

- Enzymatic method
- Suitable for all analyzers – 30 tests
- Product insert with instructions for automated procedures
- Stability reagents > 3 years after production
- Citrate / Oxalate controls available
- Wavelength 590 nm

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**SUMMARY**

**PRINCIPLE**
Oxalate is precipitated with calcium sulfate and ethanol, the precipitate is redissolved and the oxalate is oxidized to hydrogen peroxide and carbon dioxide by oxalate oxidase. The hydrogen peroxide reacts with 3-Methyl-2-benzothiazolinone hydrazone (MBTH) and diethylaniline (DEA) in the presence of peroxidase to yield an indamine dye with a maximum absorbance at 590 nm.

**SAMPLE MATERIAL**
Collect 24 h urine specimens in containers with 10 ml of 6 molar HCl. Adjust the sample to pH 7.0 (± 0.5) prior for use.

**LINEARITY**
Up to 1500 μmol/l Oxalate

**EXPECTED VALUES**
Males: 80 - 490 μmol/24h
Females: 40 - 320 μmol/24h
Children: 140 - 420 μmol/24h

**QUALITY CONTROL**

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**QUANTITY OF DETERMINATIONS**
- Automated: 30 tests

**NOTES**
1. For in vitro diagnostic use only.
2. For professional use only.
3. Contact INstruchemie for the complete validation report and the latest edition product insert.
CONCENTRATION MEASUREMENTS

The concentrations of a Low, Normal and High sample were measured with an automatic analyzer (sample: 30 µl) in order to verify acceptable absorbances.

Oxalate measurements

<table>
<thead>
<tr>
<th>Concentration (µmol/l)</th>
<th>Low</th>
<th>Normal</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorbance</td>
<td>0.0165</td>
<td>0.0422</td>
<td>0.1000</td>
</tr>
</tbody>
</table>

LINEARITY

The Oxalate AUT assay is linear up to 1500 µmol/l.

Linearity measurements with an automatic analyzer

![Graph showing linearity measurements](image)

PRECISION

The precision is determined by measuring a urine sample and Citrate/Oxalate Control Normal Level 10 times a day (repeatability) for 5 consecutive days (reproducibility), using an automatic analyzer.

Repeatability:

<table>
<thead>
<tr>
<th>Sample (µmol/l)</th>
<th>Control (µmol/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>176</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.15</td>
</tr>
<tr>
<td>Variation coefficient (%)</td>
<td>1.22</td>
</tr>
</tbody>
</table>

Reproducibility:

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<th>Control (µmol/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>176</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>4.22</td>
</tr>
<tr>
<td>Variation coefficient (%)</td>
<td>2.40</td>
</tr>
</tbody>
</table>

SENSITIVITY

The sensitivity (limit of detection) was determined by measuring blank control material (Oxalate concentration = 0 µmol/l) 20 times.

Sensitivity = 4 x standard deviation = 4 x 6 = 24 µmol/l

RECOVERY

The recovery is determined by measuring the Oxalate concentration in spiked urine 5 times using an automatic analyzer.

Recovery:

<table>
<thead>
<tr>
<th>Added Oxalate (µmol/l)</th>
<th>Measured (µmol/l)</th>
<th>Recovery (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>247</td>
<td>256</td>
<td>103.6</td>
</tr>
<tr>
<td>344</td>
<td>338</td>
<td>98.3</td>
</tr>
<tr>
<td>608</td>
<td>600</td>
<td>98.7</td>
</tr>
</tbody>
</table>

CORRELATION

Pearsons’ correlation is determined by measuring the Oxalate concentration in multiple urine samples with INstruchemie Oxalate AUT (3098) and INstruchemie Oxalate (2401)

![Graph showing correlation](image)

Note: correlation with SKML controls available

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