**PARACETAMOL**
Paracetamol (Acetaminophen) Enzyme Assay Kit

- **Specific enzyme reaction** - doesn’t react with conjugated or common metabolites of paracetamol or with N-acetyl cysteine
- **Rapid** - assay may be performed manually in 15 minutes
- **Adaptable** - kit can be run on discrete analysers
- **Reliable** - consistent performances on External Quality Assessment
- **Robust** - easy to use methodology

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**Indication**
The paracetamol assay is an enzymatic assay for the detection and quantitation of free paracetamol in human sera or plasma.

**Summary and explanation of test**
Paracetamol is a commonly used analgesic which, if taken in excessive amounts, can lead to toxic liver damage and, less commonly, to renal impairment.

The method is based on the use of an enzyme specific for the amide bond of acylated aromatic amines. It cleaves the paracetamol molecule, yielding p-aminophenol, which reacts specifically with o-cresol in ammoniacal copper solution to produce a blue colour. The assay is specific for the parent compound and does not detect paracetamol metabolites.

\[
\text{Arylacylamidase} \quad \xrightarrow{\text{Acetaminophen}} \quad \text{p-aminophenol} + \text{acetic acid} \\
\text{p-aminophenol} + \text{o-cresol} + \text{ammoniacal copper sulphate} \quad \xrightarrow{} \quad \text{indophenol}
\]

**Linearity**

![Graph showing linearity](image)

- **Dynamic Range**: 0.01 - 2.50 mmol/L
  1.5 - 378 mg/L

**Regression Analysis**
\[
y = 0.0117 + 0.499x \\
r = 1.000
\]

**Related Product**: Salicylate
**Safety Datasheet & Protocols available on-line at**:
**Paracetamol Enzyme Assay Kit**

**Catalogue No. K8001/K8002**

- **Precision**

<table>
<thead>
<tr>
<th>Intra-assay precision (n = 20)</th>
<th>Inter-assay precision (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (mmol/L)</td>
<td>Mean (mg/L)</td>
</tr>
<tr>
<td>0.20</td>
<td>30.2</td>
</tr>
<tr>
<td>0.37</td>
<td>55.9</td>
</tr>
<tr>
<td>1.17</td>
<td>176.9</td>
</tr>
</tbody>
</table>

- **Correlation**

  ![Graph showing correlation between Paracetamol Enzyme and Paracetamol HPLC](image)

  
  $y = 1.04x + 0.005 \quad r = 0.996 \quad n = 61$

- **Recovery**

  Recovery of paracetamol added to human sera showed the following results:

<table>
<thead>
<tr>
<th>Paracetamol (mmol/L)</th>
<th>% Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(mg/L)</td>
</tr>
<tr>
<td>0.48</td>
<td>72.6</td>
</tr>
<tr>
<td>0.84</td>
<td>127.0</td>
</tr>
<tr>
<td>1.20</td>
<td>181.4</td>
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<tr>
<td>1.56</td>
<td>235.9</td>
</tr>
<tr>
<td>1.92</td>
<td>290.3</td>
</tr>
</tbody>
</table>

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