Glutamine Assay for Cedex Bio and Cedex Bio HT Analyzers

High performance and reproducibility with accurate data

The Glutamine Assay developed for the Cedex Bio and Cedex Bio HT Analyzers provides accurate and consistent quantitative measurement of glutamine in cell culture and fermentation media. The assay technology is based on a colorimetric method where L-glutamine in a sample is deaminated by glutaminase and then oxidized by L-glutamate oxidase. The byproduct, H₂O₂, generates quinone dye in the presence of peroxidase. The formation of dye is measured photometrically at 340 nm.

Glutamine→GLNase Glutamate + NH₃
Glutamate→GOD a-ketoglutarate + H₂O₂ + NH₃
H₂O₂ + 4-AAP + TOOS→POD Quinone dye + H₂O

Trust results to make high confidence decisions
- Tight correlation with HPLC
- Pretreatment of L-glutamate prevents cross-reactivity
- Overestimate of glutamine by membrane analyzer

![Glutamine Assay – Method Comparison](image)

Figure 1: Glutamine concentrations in the medium over the production period of 16 days were monitored on the Cedex Bio Analyzer, on a membrane analyzer, and with HPLC. (Verification data of Roche Pharma)

Benefit from a wide and sensitive measuring range

<table>
<thead>
<tr>
<th>Glutamine Bio and Glutamine Bio HT</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15 to 1,500 mg/L (0.1 to 10.0 mmol/L)</td>
</tr>
<tr>
<td></td>
<td>up to maximal solubility with automatic predilution</td>
</tr>
</tbody>
</table>

Conserve sample with low volume requirement
- Sample volume of 2 μl per test

For quality control/manufacturing of IVD/medical devices/pharmaceutical products only.
Rely on efficiency to make the right decision

<table>
<thead>
<tr>
<th></th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.74 mmol/L (253.8 mg/L)</td>
<td>3.89 mmol/L (569.2 mg/L)</td>
<td>8.44 mmol/L (1233.7 mg/L)</td>
</tr>
<tr>
<td>CV in-run</td>
<td>1.8 %</td>
<td>1.8 %</td>
<td>1.2 %</td>
</tr>
<tr>
<td>CV inter-run</td>
<td>2.3 %</td>
<td>2.7 %</td>
<td>1.9 %</td>
</tr>
</tbody>
</table>

- ≤3% variability between duplicates (a & b)
- Automated dilution extended the measuring range

Save time with improved workflow efficiency
- No a sample filtration or pretreatment required
- Fully automated glutamine assay
- Ready-to-use reagents
- Highly reproducible
- Results are provided within 13 minutes with high precision and accuracy.

Glutamine Bio
- On-board stability: 4 weeks
- Calibration curve stability: 84 days

Glutamine Bio HT
- On-board stability: 12 weeks
- Calibration curve stability: 84 days

Take control of your bioprocess with the Cedex portfolio
- Broad and expandable assay menu
- 2 instrument platforms with identical technology, menu and reagents to fit throughput, automation needs
- Solutions for development and manufacturing environments

Ordering information

<table>
<thead>
<tr>
<th>Product</th>
<th>Pack size</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glutamine V2 Bio</td>
<td>4 x 50 tests</td>
<td>07 395 655 001</td>
</tr>
<tr>
<td>Glutamine V2 Bio HT</td>
<td>200 tests</td>
<td>07 395 612 001</td>
</tr>
<tr>
<td>Calibrator B Bio</td>
<td>6 x 0.5 ml</td>
<td>06 682 553 001</td>
</tr>
<tr>
<td>Control B Level 1 Bio</td>
<td>6 x 0.5 ml</td>
<td>06 682 561 001</td>
</tr>
<tr>
<td>Control B Level 2 Bio</td>
<td>6 x 0.5 ml</td>
<td>06 682 570 001</td>
</tr>
<tr>
<td>Control B Level 3 Bio</td>
<td>6 x 0.5 ml</td>
<td>06 682 588 001</td>
</tr>
</tbody>
</table>

Regulatory disclaimer
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