Sucrose Assay for Cedex Bio and Cedex Bio HT Analyzers

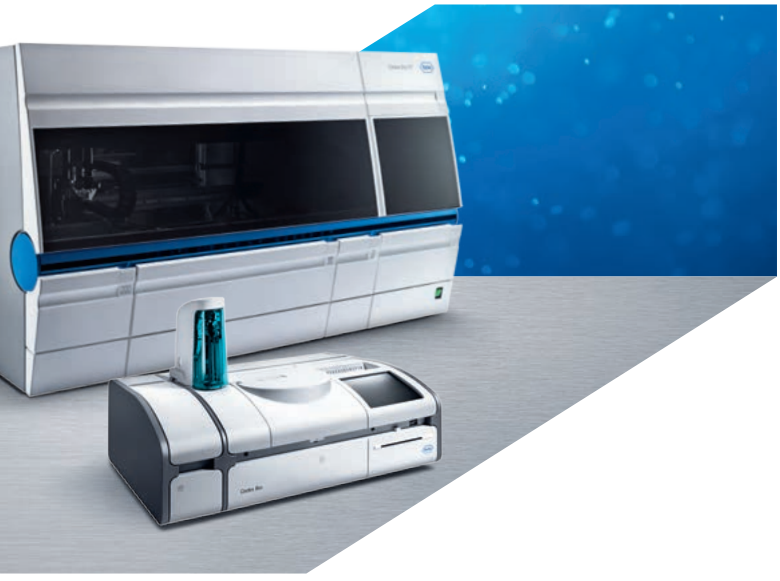
High performance and reproducibility with accurate data

The Sucrose Assay developed for the Cedex Bio and Cedex Bio HT Analyzer provides fast and accurate quantitative measurements in cell culture and fermentation media. The assay principle is based on the conversion of sucrose to glucose and fructose by ß-Fructosidase. Glucose is phos-phorylated by ATP in the presence of hexokinase (HK) to glucose-6-phosphate (G-6-P), which is oxidized by $NADP^+$ in presence of glucose-6-phosphate dehydrogenase (G6PDH). The NADPH formation is measured photometrically at 340 nm and is directly proportional to the sucrose concentration.

$$\text{Sucrose} + H_2O \xrightarrow{\text{ß-Fructosidase}} \text{D-Glucose} + \text{D-Fructose}$$

$$\text{D-Glucose} + \text{ATP} \xrightarrow{\text{HK}} \text{G-6-P} + \text{ADP}$$

$$\text{G-6-P} + NADP^+ \xrightarrow{\text{G6PDH}} \text{Gluconate-6-P} + \text{NADPH} + H^+$$



Trust results to make high confidence decisions

- Accurate results over a wide linear measuring range
- Extended range with automated on-board dilution

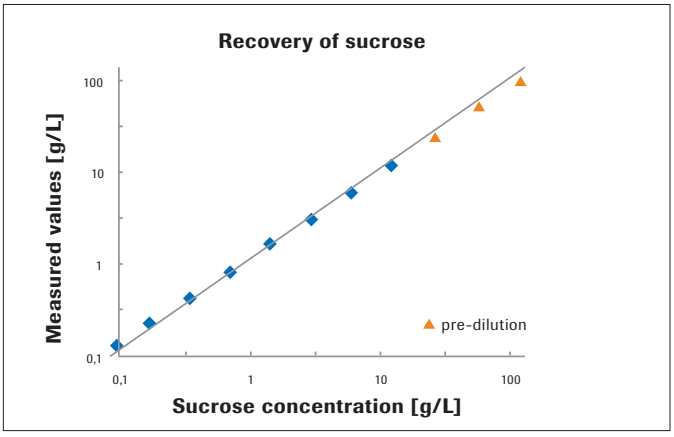


Figure 1: Sucrose was spiked into RPMI cell culture medium and measured using the Cedex Bio HT Analyzer.
(Verification data of Roche R&D)

Benefit from a wide and sensitive measuring range

	Sucrose Bio and Sucrose Bio HT
Range:	0.29 - 40.9 mmol/L, 0.1 - 14 g/L up to maximal solubility of sucrose with automated on-board dilution

Conserve sample with low volume requirement

- Sample volume of 2µl per test

For use in quality control/manufacturing process only.

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Rely on precise results

	Level 1	Level 2	Level 3
Mean	2.3 mmol/L	16.4 mmol/L	27.8 mmol/L
CV in-run	0.4 %	0.3 %	0.3 %
CV inter-run	0.5 %	0.3 %	0.3 %

Precision was determined in samples of three concentration levels. Coefficients of variation (CV) were calculated for in-run precision (n=21) and inter-run precision (on 10 days). Representative performance data from Cedex Bio HT Analyzers are shown. Results obtained in individual laboratories may differ.

Save time with improved workflow efficiency

- Ready-to-use reagents
- Long on-board and calibration curve stability
- Barcoded reagents
- Pre- and post-dilution capability

	Sucrose Bio	Sucrose Bio HT
On-board stability	28 days	84 days
Calibration interval	84 days	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 and automation needs
- Solutions for development and manufacturing environments

Eliminate interference of glucose background

If glucose is present in the sample, an automatic sucrose correction can be performed to subtract the glucose concentration and obtain the sucrose concentration.

Ordering information

Product	Pack size	Catalog number
Sucrose Bio	4 x 50 tests	07 705 557 001
Sucrose Bio HT	200 tests	07 705 565 001
Calibrator A Bio	6 x 1 ml	06 682 189 001
Control D Level 1 Bio	6 x 1 ml	07 368 178 001
Control D Level 2 Bio	6 x 1 ml	07 368 186 001
Control D Level 3 Bio	6 x 1 ml	07 368 194 001

Regulatory disclaimer
For use in quality control/manufacturing process only.

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Published by
Roche Diagnostics GmbH
Sandhofer Straße 116
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