CUSTOMBIOTECH

Roche

Magnesium Assay (2nd gen.) for Cedex Bio & Bio HT Analyzers

Improved reagent stability for optimal reliability and convenience

In cell cultures and microbial fermentation, a sufficient supply with magnesium ions is essential for growth and productivity of the cultures. Especially in fast consuming bacterial cultures, or in any culture with a significant phosphate concentration in the medium, it can be necessary to control the magnesium concentration by periodic determination and adequate feed. The new test generation V2 for determination of magnesium on Cedex Analyzers produces equivalent results compared to the previous kit generation, and due to the improved reagent stability the assay is more robust against influences, the kit handling is more convenient, and a lower determination limit provides more sensitivity.

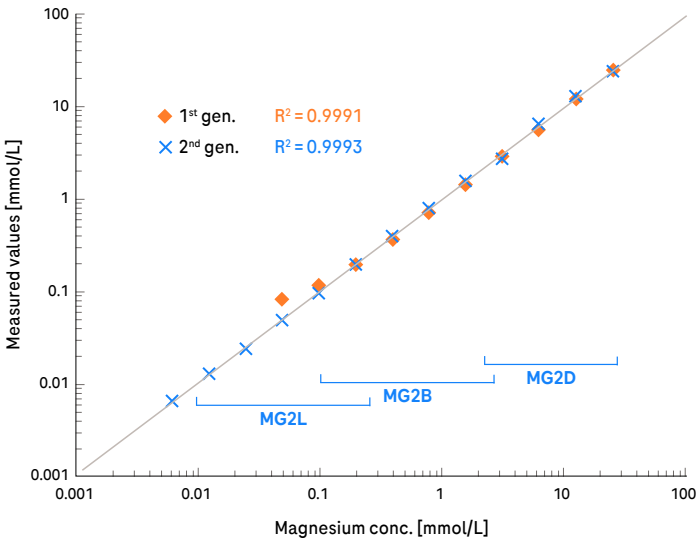
Automated testing on Cedex Analyzers enables fast and easy galactose monitoring, for perfect process control achieving optimal yield.

Assay principle

In the Cedex assay, a xylidyl blue diazonium salt forms a purple complex with magnesium, while EGTA is used to mask calcium for prevention of an interference. The photometrically measured decrease of absorbance of the unbound xylidyl blue at 629 nm correlates to the magnesium concentration of the sample.

$$Mg^{2+} + \text{Xylidyl blue} \xrightarrow{\text{Alkali}} \text{Purple complex}$$

Improved new test generation V2: Wide range, high accuracy



01

Magnesium recovery with 1st and 2nd test generation. The recovery with the two test generations on a Cedex Bio HT Analyzer is consistent. Linearity of V2 is slightly improved and three protocols (low/med/high range) are used for a wider concentration range and a lower determination limit.
(Evalulation data of Roche Diagnostics)

For quality control/manufacturing of IVD/medical devices/ pharmaceutical products only.

Compared features of the two test generations:

Feature	1st gen.	2nd gen. V2
Measuring range total	0.15 – 250 mmol/L, 3.65 – 6 078 mg/L	0.01 - 250 mmol/L, 0.24 – 6 078 mg/L
Protocol ranges in mmo/L	- - - MGB: 0.15 - 2.5 MGD: 1.5 - 25 dilution: up to 250	MG2L: 0.01 - 0.25 MG2B: 0.1 - 2.5 MG2D: 2.3 - 25 dilution: up to 250
Sample volume	2 µL (MGB)	3 µL (MG2B)
Time to result	7 min appr.	8 min appr.
Storage	2 to 8°C	room temp.
Calibration	once per lot	once per lot

High precision

	Level 1	Level 2	Level 3
Mean	0,52 mmol/L	4.0 mmol/L	7.0 mmol/L
CV in-run	0.8 %	0.2 %	0.2 %
CV inter-run	2.1 %	1.2 %	1.2 %

Precision was determined using the Magnesium V2 test on a Cedex Bio HT Analyzer with samples of three concentration levels. Coefficients of variation (CV) were calculated for in-run precision (n = 84) and interrun precision (on 21 days). Representative performance data are shown. Results obtained in individual laboratories may differ.
(Evalulation data of Roche Diagnostics)

Ordering information
For determination of magnesium, the following products are required in addition to the Cedex instrument with the general system reagents and accessories:

Product	Pack size	Catalog Number
Magnesium V2 Bio	4 x 50 tests	09 324 542 001
Magnesium V2 Bio HT	200 tests	09 324 569 001
Calibrator C Bio	6 x 1 mL	07 020 716 001
Control C Level 1 Bio	6 x 1 mL	07 020 724 001
Control C Level 2 Bio	6 x 1 mL	07 020 872 001
Control C Level 3 Bio	6 x 1 mL	07 020 902 001

Regulatory Disclaimer
For quality control/manufacturing of IVD/medical devices/pharmaceutical products only.

Trademark
CEDEX is a trademark of Roche.

Scan for ordering information for all Cedex Bio Analyzer and Cedex Bio HT Analyzer assays

Published by
Roche Diagnostics GmbH
Sandhofer Str. 116
68305 Mannheim
Germany

custombiotech.roche.com

Please contact your local CustomBiotech representative

Europe, Middle East, Africa, Latin America
mannheim.custombiotech@roche.com

United States
custombiotech.ussales@roche.com

Canada
custombiotech.can@roche.com

Asia Pacific
apac.custombiotech@roche.com