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MQuant™

Glucose Test

1. Method

Under the catalytic effect of glucose oxidase, glucose is converted into gluconic acid lactone. In the presence of peroxidase the hydrogen peroxide formed in the process reacts with an organic redox indicator to form a blue-green dye. The glucose concentration is measured **semiquantitatively** by visual comparison of the reaction zone of the test strip with the fields of a color scale.

2. Measuring range and number of determinations

Measuring range / color-scale graduation	Number of determinations
10 - 25 - 50 - 100 - 250 - **500** mg/l glucose	50

3. Applications

Sample material:
Beverages (e. g. fruit and vegetable juices), food, and preserves after appropriate sample pretreatment (e. g. **oxidation of ascorbic acid and sulfite**)
Fermentation solutions

4. Influence of foreign substances

This was checked in solutions with 250 mg/l glucose. The determination is not yet interfered with up to the concentrations of foreign substances given in the table.

Concentrations of foreign substances in mg/l					
Acetate	1000	Malate	1000	Ethanol	1000
Ascorbate	**5**	NO_3^-	1000	Glycerol	1000
Ca^{2+}	1000	NO_2^-	100	**H_2O_2**	**0.1**
Citrate	1000	Oxalate	1000	**Peracetic acid**	**0.01**
Cl^-	1000	PO_4^{3-}	1000		
CO_3^{2-}	250	**SO_3^{2-}**	**1**		
Lactate	1000	Sorbate	1000		

5. Reagents and auxiliaries

The test strips are stable up to the date stated on the pack when stored closed at +2 to +8 °C.

Package contents:
Tube containing 50 test strips

Other reagents:
MColorpHast™ Universal indicator strips pH 0 - 14, Cat. No. 109535
Sodium hydroxide solution 1 mol/l TitriPUR®, Cat. No. 109137
Hydrochloric acid 1 mol/l TitriPUR®, Cat. No. 109057
D(+)-Glucose anhydrous, Cat. No. 108337

6. Preparation

- Extract solid sample materials by an appropriate method.
- Samples containing more than 500 mg/l glucose must be diluted with distilled water.
- **The pH must be within the range 2 - 10.** Adjust, if necessary, with sodium hydroxide solution or hydrochloric acid.

7. Procedure

Immerse the reaction zone of the test strip in the pretreated sample (**15 - 30 °C**) **for 2 sec**.

Shake off excess liquid from the strip and **after 1 min** determine with which color field on the label the color of the reaction zone coincides most exactly.

Read off the corresponding result in mg/l glucose.

Notes on the measurement:

- The color of the reaction zone may continue to change after the specified reaction time has elapsed. This must not be considered in the measurement.
- If the color of the reaction zone is equal to or more intense than the darkest color on the scale, repeat the measurement using **fresh**, diluted samples until a value of less than 500 mg/l glucose is obtained.

  Concerning the result of the analysis, the dilution (see also section 6) must be taken into account:

Result of analysis = measurement value x dilution factor

8. Method control

To check test strips and handling:
Dissolve 0.1 g of anhydrous D(+)-glucose in distilled water, make up to 100 ml with distilled water, and mix. Glucose content: 1000 mg/l.
Leave this standard solution to stand for 2 hours, then dilute to 50 mg/l glucose with distilled water, and analyze as described in section 7.
Additional notes see under **www.qa-test-kits.com**.

9. Note

Reclose the tube containing the test strips immediately after use.

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