

Glucose OF Medium ISO

Cat. No. MM-M-O150
For the identification of Enterobacteriaceae

Principles and uses:

Glucose OF Medium is used to confirm Enterobacteriaceae colonies in products intended for human consumption and the feeding of animals, and environmental samples in the area of primary production, food production and food handling.

Enzymatic digest of casein provides nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Dipotassium phosphate acts as a buffer system. Glucose is the fermentable carbohydrate providing carbon and energy. Bromothymol blue is the pH indicator. Bacteriological agar is the solidifying agent.

Colonies of presumptive Enterobacteriaceae should be confirmed by means of tests for the fermentation of glucose and the presence of oxidase. If the colonies are oxidase-negative and glucose-positive, the sample shall be regarded as being positive for Enterobacteriaceae.

ISO 21528 recommends this medium to confirm the presumptive colonies of Enterobacteriaceae by fermentation test.

Formula per Litre:

Enzymatic digest of casein	2g	Bromthymol blue	0.08g
Glucose	10g	Bacteriological agar	4g
Sodium chloride	5g	Dipotassium hydrogen phosphate	0.3g

Preparation:

Suspend 21.38 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense 10 ml of the medium into tubes and sterilize in autoclave at 121 °C for 15 minutes. Leave the tubes in vertical position.

Just before use, heat the medium in boiling water or flowing steam for 15 min to remove oxygen, then cool rapidly to the incubation temperature.

Instructions for use:

For the confirmation of Enterobacteriaceae according to ISO 21528:

- Inoculate and overlay the surface of the medium with minimal 1 cm of sterile mineral oil to induce an anaerobic environment that forces the strain to carry out fermentation.
- Incubate the tubes at 37°C for 24±2 h.
- If a yellow color is developed throughout the contents of the tube, the reaction is positive.

Quality control:

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige with green tint	Green	6.8±0.2

Microbiological test:

Incubation conditions: (37°C / 24±2 h).

Technical Data Sheet

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Microorganisms	Specification	Characteristic reaction
<i>Pseudomonas aeruginosa</i> ATCC 27853	Good growth	With mineral oil overlay: green color (-) / No mineral oil overlay: yellow color only at the top of the tube (-)
<i>Escherichia coli</i> ATCC 8739	Good growth	With mineral oil overlay: green color (+) / No mineral oil overlay: yellow color (+)

Storage:

Temperature: 2°C - 25°C

Bibliography:

ISO normative 21528:2017 Microbiology of the food chain — Horizontal method for the detection and enumeration of Enterobacteriaceae. Drigalsky, C. (1902) Uber ein Verfahren zum Nachweis der typhusbacillen.

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