



Glucose Agar

M1746

Glucose Agar is recommended for differentiation of *Enterobacteriaceae* in urine, water and food samples.

Composition**

Ingredients	Gms / Litre
Tryptone	2.000
Glucose	10.000
Sodium chloride	5.000
Yeast extract	1.000
Potassium hydrogen phosphate	0.300
Bromothymol blue	0.080
Agar	2.500
Final pH (at 25°C)	7.1±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 20.88 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (1210C) for 15 minutes and dispense as desired.

Principle And Interpretation

Glucose agar is used for the differentiation of *Enterobacteriaceae* in urine, water and food. It differentiates species on the basis of glucose fermentation. The *Enterobacteriaceae* are gram- negative chemoautotroph that posses both respiratory and fermentative metabolism.

Tryptone and Yeast extract provide essential nutrients for growth: nitrogen, vitamins, minerals and amino acids; Glucose is the fermentable carbohydrate providing carbon and energy; Sodium chloride maintains the osmotic balance; Bromothymol blue is a pH indicator.

Inoculate and incubate at $35 \pm 2^\circ\text{C}$ for 18 - 24 hours. The glucose fermenting microorganisms produce yellow colour (acid) and the non-fermenting ones, blue colour or colourless.

Quality Control

Appearance

Light yellow to light green homogeneous free flowing powder

Colour and Clarity of prepared medium

Blue green coloured, clear to slightly opalescent gel forms in tubes as butts.

Reaction

Reaction of 2.08% w/v aqueous solution at 25°C. pH : 7.1±0.2

pH

6.90-7.30

Cultural Response

M1746: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Acid production
Cultural Response <i>Enterobacter aerogenes</i> ATCC 13048	50-100	good	Positive reaction(Colour changes to yellow)
<i>Escherichia coli</i> ATCC 25922	50-100	good	Positive reaction(Colour

<i>Salmonella Typhimurium</i> <i>ATCC 14028</i>	50-100	good	changes to yellow) Positive reaction(Colour changes to yellow)
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Storage and Shelf Life

Store below 30°C in tightly closed container and prepared media at 2-8°C. Use before expiry date on label.

Reference

1. Waisbren, Carr and Dunnett, 1951, Am. J. Clin. Path., 21:884.

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