



Glucose Broth

M860

Glucose Broth is used for study of glucose (dextrose) fermentation where a pH indicator is not desired.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Glucose	5.000
Sodium chloride	5.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 20 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes containing inverted Durhams tubes. Sterilize by autoclaving at 118°C for 15 minutes.

Principle And Interpretation

Waisbren, Carr and Dunnett used Glucose Broth for testing antibiotic sensitivity by the tube dilution method (1). This medium is also used to study glucose fermentation where pH indicator is not desired. Glucose Broth was developed to exclude the ingredients like beef extract that would contain small amount of carbohydrates. Thus the glucose fermentation studies can be performed more accurately using only pure 0.5% glucose as the source of carbohydrate.

Casein enzymic hydrolysate and glucose serve as sources of essential nutrients and energy respectively to support the growth of many fastidious organisms. The casein enzymic hydrolysate used is free of carbohydrates and glucose acts as source of energy by being the only fermentable carbohydrate. The broth gives rapid growth and hastens the early development of injured cells. Sodium chloride maintains the osmotic equilibrium.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured, clear solution without any precipitate

Reaction

Reaction of 2.0% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

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

Cultural Response

Organism	Inoculum (CFU)	Growth	Gas
Cultural Response			
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	positive reaction
<i>Salmonella Typhi</i> ATCC 6539	50-100	luxuriant	negative reaction
<i>Shigella flexneri</i> ATCC 12022	50-100	luxuriant	negative reaction
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	negative reaction

<i>Staphylococcus epidermidis</i> ATCC 12228	50-100	luxuriant	negative reaction
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant	negative reaction

Storage and Shelf Life

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

Reference

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

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