Glucose Broth

M860

Intended Use:

Recommended for study of dextrose fermentation where pH indicator is not desired.

Composition**

Ingredients	Gms / Litre
Tryptone	10.000
Dextrose (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 purified / 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. Cool to 45-50°C.

Principle And Interpretation

Waisbren, Carr and Dunnett used Glucose Broth for testing antibiotic sensitivity by the tube dilution method (3). 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.

Tryptone and glucose serve as sources of essential nutrients and energy respectively to support the growth of many fastidious organisms. The tryptone 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.

Type of specimen

Isolated Microorganisms

Specimen Collection and Handling:

For samples follow appropriate techniques for handling specimens as per established guidelines.(1,2)

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1.This media is not intended for primary isolation of specimens.
2. Overincubation is not recommended.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

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.

Organism	Inoculum (CFU)	Growth	Gas
Escherichia coli ATCC 25922 (00013*)	50-100	luxuriant	positive reaction
Salmonella Typhi *ATCC 6539*	50-100	luxuriant	negative reaction
Shigella flexneri ATCC 12022 (00126*)	50-100	luxuriant	negative reaction
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	50-100	luxuriant	negative reaction
Staphylococcus epidermidis ATCC 12228 (00036*)	50-100	luxuriant	negative reaction
Streptococcus pyogenes ATCC 19615	50-100	luxuriant	negative reaction

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.
Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (1,2).

Reference

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
3. Waisbren, Carr and Dunnett, 1951, Am. J. Clin. Path., 21:884.

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