Glucose Peptone Agar

M758

Intended Use:

Highly nutritious medium that can support growth of fastidious microorganism.

Composition**

Ingredients	Gms / Litre
Peptone	20.000
Dextrose (Glucose)	10.000
Sodium chloride	5.000
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 50.0 grams in 1000 ml purified/distilled water.Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to45-50°C. Mix well & pour in sterile Petri plates.

Principle And Interpretation

Glucose Peptone Agar is recommended for general cultivation of wide variety of microorganisms. As it is rich in nutrients can also serve as excellent basal medium for glucose blood agar. With addition of suitable indicator, this medium can be used for the detection and cultivation of thermophilic organisms, associated with flat sour spoilage in Canned goods. *Agrobacterium* species can also grow abundantly on media containing dextrose as carbohydrate source. Glucose peptone Agar with addition of Bromocresol purple (1% alcoholic solution) is suitable for cultivation of root nodulating bacteria (5). Peptone provides nitrogenous nutrients especially amino acids, and peptides. The presence of sodium chloride helps to maintain the osmotic balance. Dextrose serves as fermentable carbohydrate source and carbon source.

Type of specimen

Food samples; Soil samples

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4).
For soil samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(5)
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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium

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 coloured homogeneous free flowing powder.
Gelling
Firm, comparable with 1.5% Agar gel.
Colour and Clarity of prepared medium
Light yellow coloured clear to slightly opalescent gel forms in Petri plates.
Reaction

Reaction of 5.0% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery
Agrobacterium tumefaciens ATCC 23308	50-100	Good - luxuriant	>=70%
Escherichia coli ATCC 25922 (00013*)	50-100	Good - luxuriant	>=70%
Pseudomonas aeruginosa ATCC 27853 (00025*)	50-100	Good - luxuriant	>=70%
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	50-100	Good - luxuriant	>=70%
Enterococcus faecalis ATCC 29212 (00087*)	50-100	Good - luxuriant	>=70%

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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 (2,3).

Reference

1. Atlas, R.M. (3rd Ed.), 2004, Handbook of Microbiological Media, CRC Press LLC.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Editio
3. 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.
4. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
5. Subba Rao N.S. 1977, Soil microorganisms and Plant Growth. Oxford SIBH Publishing C

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