YEP Broth

M1827

Intended Use:

Recommended for cultivation of aerobic microorganisms and also *Agrobacterium* species and other soil microorganisms for phytology studies.

Composition**

Ingredients	Gms / Litre
Peptone	10.000
Yeast extract	10.000
Sodium chloride	5.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks as desired.Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

YEP Broth is based on the formula described by Tianayan et.al (4). YEP Broth modified is widely used for the cultivation of *Agrobacterium* species and other soil microorganisms. *Agrobacterium* is a genus of Gram negative bacteria, soil borne pathogen responsible for crown-gall disease, affecting many higher species of plants. *Agrobacterium* strains used in experiments on YEP broth during plant functional genomic studies. Rhizobial strains is cultured in YEP broth.

Yeast extract and peptone provide nitrogenous compounds, vitamin B complex and other growth nutrients for the growth of *Agrobacterium*. Sodium chloride maintains the osmotic balance of the medium.

Type of specimen

Soil samples

Specimen Collection and Handling

For soil samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (3). 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. Some strains may show poor growth due to nutritional variations.
2. Further biochemical and serological tests must be carried out for complete identification.

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

Yellow coloured clear solution in tubes

Reaction

Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

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

Organism	Inoculum (CFU)	Growth
Rhizobium leguminosarum ATCC 10004	50-100	luxuriant
Rhizobium meliloti ATCC 9930	50-100	luxuriant
Agrobacterium tumefaciens ATCC 33970	50-100	luxuriant
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	50-100	good-luxuriant

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 (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. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.
4. Tianyan Song, Claudia Toma, Noboru Nakasone and Masaaki Iwanaga. (2004). Aerolysin is activated by metalloprotease in *Aeromonas veronii biovar* sobria J Med Microbiol 53, 477-482

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