

Technical Information

Rose Bengal Chloramphenicol Agar

Product Code: DM 1640

Application: - Rose Bengal Chloramphenicol Agar is recommended for selective isolation and enumeration of yeasts and moulds from foods, clinical samples and environmental materials.

Composition**

Ingredients	Gms / Litre
Mycological peptone	5.000
Dextrose (Glucose)	10.000
Potassium dihydrogen phosphate	1.000
Magnesium sulphate	0.500
Rose bengal	0.050
Chloramphenicol	0.100
Agar	15.500
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Rose Bengal Chloramphenicol Agar was formulated originally by Jarvis (3) and further modified by Overcast and Weakley (8). The use of rose bengal in the media having neutral pH was reported by Smith and Dawson (8).

Mycological peptone supplies carbon, nitrogen substances, long chain amino acids, vitamins and other essential growth nutrients. Dextrose (Glucose) acts as fermentable carbohydrate. Chloramphenicol has inhibitory action on gram-negative bacteria. Rose bengal dye suppresses the development of bacteria and reduces the spreading of moulds, controls the size and height of mould colonies such as *Rhizopus* species (7). The medium has neutral pH, which with the antibiotics has noted to be advantageous (5, 6). Rose bengal is taken up by mould and yeast colonies thereby assist in enumeration (10).

The number of yeasts or moulds is calculated per 1 gram or 1 ml of sample to be tested by multiplying the number of colonies by dilution factor. Colonies of bacteria and yeasts could be confused by appearance and thus should be examined microscopically.

Due to the selective properties of this medium and the type of specimen being cultured, some strains of fungi may grow poorly or fail to grow on the complete medium; similarly, some strains of bacteria may also not be inhibited or only partially inhibited.

Care should be taken not to expose this medium to light, since photo degradation of rose bengal yields compounds that are toxic to fungi (1,9).

Type of specimen

Food samples; Environmental samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (2,4). For food samples, follow appropriate techniques for sample collection and processing as per guidelines (9). 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. The medium should not be exposed to light, since photodegradation of rose bengal yields compounds that are toxic to fungi.

Methodology

Suspend 32.15 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Shake well before pour into sterile Petri plates.

Quality Control

Appearance

Light yellow to pink homogeneous free flowing powder

Gelling

Firm, comparable with 1.55% Agar gel.

Colour and Clarity

Deep pink coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 3.22% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH Range

7.00-7.40

Cultural Response

DM1640: Cultural characteristics observed after an incubation at 25-30°C for 5 days.

Organism	Inoculum (CFU)	Growth
# <i>Aspergillus brasiliensis</i> ATCC 16404 (00053*)	50-100	good-luxuriant
<i>Bacillus subtilis</i> subsp. <i>spizizenii</i> ATCC 6633 (00003*)	>=10 ³	inhibited
<i>Cladosporium cladosporioides</i> ATCC 11278	50-100	good-luxuriant
<i>Escherichia coli</i> ATCC 25922 (00013*)	>=10 ³	inhibited
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	>=10 ³	inhibited
<i>Mucor racemosus</i> ATCC 42647	50-100	good-luxuriant
<i>Pencillium notatum</i> ATCC 10108	50-100	good-luxuriant
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	good-luxuriant

#Key: Formerly known as *Aspergillus niger*

* Corresponding WDCM numbers



Dehydrated Culture Media
Bases / Media Supplements

Storage and Shelf Life

Dried Media: Store the dehydrated and prepared media between 15-25°C in a tightly closed container. 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. Use before expiry date on the label. 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 (9, 10).

Further Reading

1. Jarvis B., 1973, J. Appl. Bacteriol., 36:723.
2. Overcast W.W. and Weakley D.J., 1969, J. Milk Food Technol., 32:442.
3. Smith and Dawson V. T., 1944, Soil Sci., 58:467.
4. Ottow J.C.G. and Glathe H., 1968, Appl. Microbiol., 16(1):170.
5. Koburger J.A., 1968, Bact. Proc., 13:A73.
6. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
7. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
8. Banks J. G., Board R. G., and Paton J., 1985, Lett. Appl. Microbiol., 1:7.
9. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
10. 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.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
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