

17211 Rose Bengal Chloramphenicol Agar (RBC Agar)

For the selective isolation and enumeration of yeasts and moulds from environmental materials and food stuffs.

Composition:

Ingredients	Grams/Litre
Mycological peptone	5.0
Dextrose	10.0
Monopotassium phosphate	1.0
Magnesium sulfate	0.5
Rose bengal	0.05
Chloramphenicol	0.1
Agar	15.5
Final pH 7.2 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:

Suspend 32.15 g in 1 litre distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 121°C for 15 minutes. Mix thoroughly and pour into sterile petri plates. Directly inoculate the agar plates using surface spreading technique with serial dilutions. Incubate at 25°C for 5 days in the dark.

Principle and Interpretation:

Rose Bengal Chloramphenicol Agar was formulated originally by Jarvis (1) and further modified by Overcast and Weakley (2). The use of rose bengal in the media having neutral pH was reported by Smith and Dawson (3).

Mycological peptone act as source of carbon, nitrogen, minerals, vitamins and other essential growth nutrients. Dextrose is the fermentable carbohydrate. Monopotassium Phosphate provides buffering capability and Magnesium sulfate is a necessary trace element. Chloramphenicol has inhibitory action on gram-negative bacteria. Rose bengal dye suppresses the development of bacteria and restricts the size and the spreading of mould colonies such as *Rhizopus* species (4). The medium has neutral pH which with the antibiotics have noted to be advantageous (5, 6). Rose bengal is taken up by mould and yeast colonies thereby assist in enumeration (1).

The number of yeasts or moulds is calculated per 1 g 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.

Cultural characteristics after 5 days at 25°C

Organisms (ATCC)	Growth
<i>Aspergillus niger</i> (16404)	+++
<i>Saccharomyces cerevisiae</i> (9763)	+++
<i>Cladosporium cladosporoides</i> (45534)	+++
<i>Penicillium notatum</i> (10108)	+++
<i>Mucor racemosus</i> (42647)	++
<i>Enterococcus faecalis</i> (29212)	-
<i>Escherichia coli</i> (25922)	-
<i>Bacillus subtilis</i> (6633)	-



References:

1. B. Jarvis, Comparison of an improved rose-bengal-chlortetracycline agar with other media for the selective isolation and enumeration of moulds and yeasts in food, J. Appl. Bacteriol. 36, 723 (1973)
2. W.W. Overcast, D.J. Weakley, J. Milk Food Technol., 32, 442 (1969)
3. Smith and Dawson V. T., Soil Sci., 58, 467 (1944)
4. J.C.G. Ottow, H. Glathe, Appl. Microbiol., 16(1), 170 (1968)
5. J.A. Koburger, Bact. Proc., 13, A73 (1968)
6. J.F. MacFaddin, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore (1985)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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