



## Dichloran Rose Bengal Chloramphenicol Agar (DRBC Agar)

M1881

### Intended Use:

Recommended for selective isolation of fungi-yeasts and moulds of significance in food spoilage. The composition and performance criteria are in accordance with ISO 21527-1:2008.

### Composition\*\*

Ingredients	Gms / Litre
Peptone	5.000
Dextrose (Glucose)	10.000
Potassium dihydrogen phosphate	1.000
Magnesium sulphate	0.500
Rose Bengal	0.025
Chloramphenicol	0.100
Dichloran	0.002
Agar	15.000
Final pH ( at 25°C)	5.6±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 31.6 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. Mix well and pour into sterile Petri plates

### Principle And Interpretation

Dichloran Rose Bengal Chloramphenicol Agar (DRBC Agar) is formulated by as described by King et.al (1) and is recommended for selective isolation of yeasts and moulds especially in food samples.

This medium is a modification of Rose Bengal Chloramphenicol Agar which additionally contains dichloran.

Peptone provides nitrogenous compounds, carbon, long chain amino acids, vitamins and other essential growth nutrients. Dextrose is a carbohydrate source. Phosphate buffers the medium. Magnesium sulfate provides divalent cations and sulfate. Dichloran is an antifungal agent, added to the medium to reduce colony diameters of spreading fungi. Rose Bengal exhibits an improved inhibitory activity at pH 5.6 and hence the final pH of the medium is maintained at 5.6 for the inhibition of spreading fungi (1) The presence of rose bengal in the medium suppresses the growth of bacteria and restricts the size and colonies of the more rapidly growing moulds. Chloramphenicol is included to inhibit the growth of bacteria present in environmental and food samples. Inhibition of growth of bacteria and restriction of spreading of more-rapidly growing moulds aids in the isolation of slow-growing fungi by preventing their overgrowth by more-rapidly growing species. Additionally Rose Bengal is taken by yeast and moulds colonies , which allows these colonies to be easily recognized and enumerated.

This medium should not be exposed to direct light as rose bengal undergoes photo-degradation leading to formation of toxic chemicals for fungi (2,3).

### Type of specimen

Food sample : Eggs, Meat, Dairy products (except milk powder), Fruits, Vegetables, Fresh pastes, etc.

### Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,2,8). After use, contaminated materials must be sterilized by autoclaving before discarding.

## Quality Control

### Appearance

Light yellow to pink homogeneous free flowing powder

### Gelling

Firm, comparable with 1.5% Agar gel

### Colour and Clarity of prepared medium

Pink coloured, clear to slightly opalescent gel forms in Petri plates

### Reaction

Reaction of 3.16% w/v aqueous solution at 25°C. pH : 5.6±0.2

### pH

5.40-5.80

### Cultural Response

Cultural characteristics observed after an incubation at 25-30°C for upto 6 days.

### Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
<b>Cultural Response</b>			
<i>Bacillus subtilis</i> ATCC 6633 (00003)*	≥10 <sup>4</sup>	inhibited	0%
<i>Candida albicans</i> ATCC 10231 (00054)*	50-100	good-luxuriant	≥50%
<i>Escherichia coli</i> ATCC 25922 (00013)*	≥10 <sup>4</sup>	inhibited	0%
<i>Escherichia coli</i> ATCC 8739 (00012)*	≥10 <sup>4</sup>	inhibited	0%
<i>Mucor racemosus</i> ATCC 42647 (00181)*		good-luxuriant	
<i>Saccharomyces cerevisiae</i> ATCC 9763 (00058)*	50-100	good-luxuriant	≥50%
<i>Aspergillus brasiliensis</i> ATCC 16404 (00053)*		good-luxuriant	

Key : \* - Corresponding WDCM numbers

## Reference

1. King D.A. Jr., Hocking A.D. and Pitt J.I., 1979, J. Appl. Environ. Microbiol., 37:959.
2. Sharp A.N. and Jackson A.K., 1972, J. Appl. Bact., 24:175.
3. U.S. Food and Drug Administration, 1995, Bacteriological Analytical Manual, 8th Ed., AOAC International, Gaithersburg, Md.

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