

TECHNICAL DATA SHEET

Article No. 9627

DRBC Agar

SYNONYMS

Dichloran-Bengalrot-Chloramphenicol Agar

SPECIFICATION

Selective medium for the enumeration of moulds and yeasts in foods according to ISO standard.

Color: Strongly pink
pH: 5.6 ± 0.2 at 25 °C

COMPOSITION IN G/L

Mycological peptone	5.000
Dextrose	10.000
Monopotassium phosphate	1.000
Magnesium sulfate	0.500
2-6-dichloro-4-nitro-aniline (Dichloran)	0.002
Rose bengal	0.025
Cloramphenicol	0.100
Agar	15.000

PACKAGING DETAILS

9627-20PLATES

20 Plates 90 mm

Content: 21 ± 2 ml

Packaging unit: 1 box with 2 packs of 10 plates/pack. Single cellophane wrapping.



GUIDELINES

Description/Technique:

Dichloran Rose Bengal Chloramphenicol (DRBC) Agar is a medium based on the Dichloran Rose Bengal Chlortetracycline medium developed by King et al. Cols (1979) and on the formulation of Rose Bengal Chlortetracycline medium of Jarvis (1973). The combination of Dichloran and Rose Bengal markedly restricts the size and height of mould colonies thus preventing overgrowth of luxuriant species and assisting accurate counting of colonies. The presence of Chloramphenicol and the low pH of 5.6 serve to prevent the growth of most bacteria. This medium supports good growth of yeasts and moulds and can be used to enumerate both toxigenic and non-toxicogenic fungi but it is not diagnostic for detecting specific mycotoxin-producers.

In the current formulation the concentration of Rose Bengal is reduced to 25 µg/mL for optimal performance with Dichloran. Chlortetracycline is replaced by chloramphenicol as it is more stable and easier to handle. It is also preferred for use in the food and environmental sectors.

Rose Bengal is taken up by most yeasts and some moulds, which allows the easy recognition and enumeration of these colonies. Sometimes there can be a reduced recovery of certain yeasts due to increased activity of Rose Bengal at pH 5.6.

Using 0.1-0.2 ml of inoculum per 9 cm diameter plate, spread it over the whole surface of the plate. Incubate the plates upright at 25 °C for 5 days in the dark with examination for growth after 3, 4 and 5 days. Where identification is required prolong the incubation until characteristic colonies are formed. Colonies of yeast generally appear pink due the uptake of Rose Bengal.

Where separate counts of moulds and yeasts are required, identify by morphological appearance and perform microscopic examination of these two groups of microorganisms where necessary. Colonies of yeast and bacteria can be confused and microscopic examination should be carried out if unsure.

Cautions and Limitations:

- Due to the selective properties of this medium and the type of specimen being cultured some strains of fungi can fail to grow or grow poorly.
- Similarly, some strains of bacteria may be encountered that are not inhibited or only partially inhibited.
- This medium is photo-sensitive. Do not expose to light since photo-degradation of Rose Bengal produces compounds toxic to fungi.

MICROBIOLOGICAL CONTROL

Inoculate Practical range 100 ± 20 CFU. min. 50 CFU (productivity)/10⁴-10⁶ CFU (selectivity).

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020

Aerobiosis. Incubation at 25 °C ±1, reading at 72 h to 5 days

Microbiological control according to ISO 11133:2014/A1:2018.



Microorganism	Growth
<i>Aspergillus brasiliensis</i> ATCC® 16404, WDCM 00053	Good (≥50 %)
<i>Candida albicans</i> ATCC® 10231, WDCM 00054	Good (≥50 %)
<i>Saccharomyces cerevisiae</i> ATCC® 9763, WDCM 00058	Good (≥50 %)
<i>Bacillus subtilis</i> ATCC® 6633, WDCM 00003	Inhibited
<i>Escherichia coli</i> ATCC® 25922, WDCM 00013	Inhibited
<i>Mucor racemosus</i> ATCC® 42647, WDCM 00181	Good (≥50 %)

Sterility control:

Incubation 48 hours at 30-35 °C and 48 hours at 20-25 °C: NO GROWTH.

Check at 7 days after incubation in same conditions.

BIBLIOGRAPHY

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- BAYLIS, C.L. (2003) Manual of Microbiological Methods for the Food and Drinks Industry. CCFRA. Chipping Campden. Gloucestershire. UK.
- BEUCHAT, L.R. & M.A. COUSIN (2001) Yeasts and Molds. In Downes and Ito (ed.) Compendium of methods for the microbiological examination of foods. 4th ed. APHA. Washington. USA.
- CORRY, J.E.L., G.D.W. CURTIS & R.M. BAIRD (2003) Handbook of Culture Media for Food Microbiology. Elsevier Science. Amsterdam.
- ISO 21527-1 Standard (2008) Microbiology of food and animal feeding stuffs – Horizontal methods for the enumeration of yeast and moulds – Part1: Colony count technique in products with water activity greater than 0,95.
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- JARVIS, B. (1973) 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. 36:723-727.
- KING, D.A., A.D. HOCKING & J.J.PITT (1979) Dichloran-Rose Bengal medium for enumeration an isolation of molds from foods. Appl. Environm. Microbiol. 37.959-964.

STORAGE

2-14 °C

SHELF LIFE

3.5 months unopened from date of manufacture



