

Dichloran Rose-Bengal Chloramphenicol Agar

Intended Use

Dichloran Rose-Bengal Chloramphenicol (DRBC) Agar is a selective medium used for the isolation and enumeration of yeasts and molds, particularly in food, dairy products, and environmental samples. The medium is specially formulated to restrict the growth of rapidly spreading fungi, allowing for better development and identification of slower-growing colonies. DRBC Agar is widely used in quality control and food safety testing, especially when assessing the fungal load in products with high sugar or moisture content.

Principle

Peptone serves as a source of nitrogen, vitamins, minerals, and amino acids essential for microbial growth. Dextrose acts as a fermentable carbohydrate, providing carbon and energy. Potassium phosphate functions as a buffering agent, while magnesium sulfate supplies sulfur and trace elements. Rose bengal acts as a selective agent, inhibiting bacterial growth and restricting the size and height of fast-growing molds, which helps in the detection of slower-growing yeasts—often appearing as pink-colored colonies. Chloramphenicol is included to further suppress bacterial contamination; it is preferred in neutral media due to its heat stability and broad-spectrum antibacterial activity. Dichloran is added to inhibit the rapid spreading of mucoraceous fungi and to reduce the colony size of other genera, enhancing the accuracy of colony enumeration. Bacteriological agar serves as the solidifying component of the medium.

Storage

Recommended storage conditions: 2 to 8°C. Store in cool dry place
 Recommended shipping conditions: 2 to 8°C.

Production Standard

The formulation is prepared according to the recommendations of the current European, United States, and China Pharmacopoeia.

Precautions

1. The product may secrete water when exposed to temperature changes between low and room temperature, which is normal. Allow it to reach room temperature before use and, if possible, pre-dry it in a sterile drying oven.
2. Handle the plates with sterile gloves to prevent contamination during use.
3. Store the plates in a cool, dry place away from direct sunlight to maintain their integrity.
4. Avoid opening the plates until they are ready to be used in the sampling area to prevent airborne contamination.
5. Ensure the plates are used within their expiration date to guarantee accurate results.
6. Dispose of used plates according to biohazard waste protocols to prevent contamination and ensure safety.

Quality Control

The following were incubated at 20-25°C for 3-5 days. The results are as follows:

Test Strains	Expected Results
<i>Candida albicans</i> ATCC 10231	PR≥0.7
<i>Saccharomyces cerevisiae</i> ATCC 9763	PR≥0.7
<i>Aspergillus brasiliensis</i> ATCC 16404	PR≥0.7
<i>Escherichia coli</i> ATCC 25922	Inhibited

Product Content

Product Content	Cat No.	Size
Dichloran Rose-Bengal Chloramphenicol Agar	111010	10 plates/bag; 200 plates/case

Composition

Peptone	5.0 g
Glucose	10.0 g
Potassium dihydrogen phosphate	1.0 g
Magnesium sulfate monohydrate	0.5 g
Rose bengal	0.033 g
Chloramphenicol	0.1 g
Dichloran	0.002 g
Bacteriological agar	20.0 g
Water	1000ml
Final pH (at 25°C)	5.6 ± 0.2

Shelf Life

Shelf life: 3 months from date of manufacture

Packaging

90mm x 10 plates per bag; 200 plates/case

Each plate filled with 25mL ± 2mL

Disposal

Please adhere to the respective regulations for the disposal of used culture medium (e.g., autoclave for 30 minutes at 121 °C)

Reference

1. ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.