

Rose Bengal Agar + Choramphenicol + Dichloran (DRBC Agar) ISO

Cat. 1160

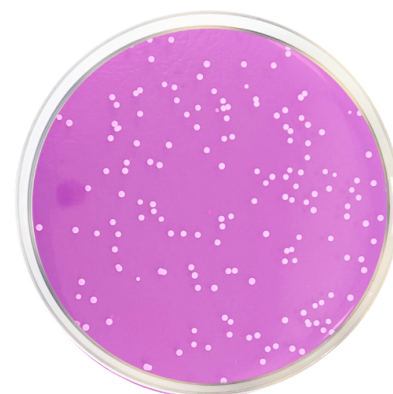
Selective medium for the enumeration of yeasts and molds in foods.

Practical information

Applications	Categories
Selective isolation	Yeasts and molds

Industry: Food / Dairy products

Regulations: ISO 11133 / ISO 21527



Principles and uses

Rose Bengal Agar + Choramphenicol + Dichloran (DRBC Agar) is a selective medium recommended by ISO 21527-1 for the enumeration of yeasts and molds, by means of the colony count technique, in foods products for human consumption and animals feeding stuffs which have a water activity greater than 0,95, such as meat, eggs, dairy products (except milk powder), fruits, fresh pastes, vegetables, etc. This formula is a modification of Rose Bengal Agar.

Peptone provides the nitrogen, vitamins, minerals and amino acids source. Dextrose is the fermentable carbohydrate as a carbon and energy source. Potassium phosphate is the buffer. Magnesium sulfate provides sulfur and other trace elements. Rose bengal is a selective agent that inhibits the growth of bacteria and limits the size and height of faster-growing molds, allowing for the development and detection of other slower-growing yeasts. Molds appear pink colored. Chloramphenicol serves as a selective agent, inhibiting bacterial growth. It is a recommended antibiotic for neutral media due to its heat stability and wide bacterial spectrum. The addition of dichloran prevents the fast spreading of mucoraceous fungi and also restricts the size of the colonies of other genera, improving the colony count. Bacteriological agar is the solidifying agent.

Formula in g/L

Glucose	10	Bacteriological agar	15
Chloramphenicol	0,1	Monopotassium phosphate	1
Rose bengal	0,025	Dichloran	0,002
Enzymatic Digest of Plants & Animal Tissue	5	Magnesium sulfate monohydrate	0,5

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 31,6 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 44-47 °C, mix well and dispense into plates.

Instructions for use

For the enumeration of yeasts and moulds according to ISO 21527:

- Prepare the test portion, initial suspension (primary dilution) and further dilutions.
- Transfer 0,1 ml of the test sample to one DRBC agar plate.
- On a second DRBC agar plate, transfer 0,1 ml of the first decimal dilution (10^{-1}), or 0,1 ml of the 10^{-2} dilution.
- Spread the liquid over the surface of the agar plate until the liquid is completely absorbed into the medium.
- Incubate the prepared plates aerobically, lids uppermost at 25 ± 1 °C for 5 days.
- Count and select the colonies for confirmation.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Pink	Intense pink	5,6±0,2

Microbiological test

According to ISO 11133:

Incubation conditions: (25±1 °C / 5 days).

Inoculation conditions: Productivity quantitative (100±20. Min. 50 CFU) / Selectivity (10⁴-10⁶ CFU).

Reference medium: SDA

Microorganisms	Specification	Characteristic reaction
Candida albicans ATCC 10231	Good growth (2) >50%	Characteristic colony/propagules according to each species.
Aspergillus brasiliensis ATCC 16404	Good growth (2) >50%	Characteristic colony/propagules according to each species.
Escherichia coli ATCC 25922	total inhibition (0)	
Mucor racemosus ATCC 42647	Good growth (2) >50%	Characteristic colony/propagules according to each species.
Bacillus subtilis ATCC 6633	Total inhibition (0)	
Saccharomyces cerevisiae ATCC 9763	Good growth (2) >50%	Characteristic colony/propagules according to each species.

Storage

Temp. Min.: 2 °C

Temp. Max.: 25 °C

Bibliography

King, D.A. and Pitt, J.I. (1979) Dichloran-rose Bengal medium for enumeration and isolation of moulds from foods. Appl. Environm. Microbiol. 37 959-964
ISO 21527 - Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of yeasts and moulds -- Part 1: Colony count technique in products with water activity greater than 0,95.