



Rose Bengal Agar w/ Chlortetracycline

M1584

Rose Bengal Agar w/ Chlortetracycline is recommended for the selective isolation and enumeration of yeasts and moulds from environmental materials and foodstuffs.

Composition**

Ingredients	Gms / Litre
Peptone, special	5.000
Dextrose	10.000
Monopotassium phosphate	1.000
Magnesium sulphate	0.500
Rose bengal	0.050
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 31.55 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45°C and aseptically add the rehydrated contents of 1 vial of Chlortetracycline Selective Supplement (FD120) to the medium. Mix thoroughly and pour into sterile Petri plates.

Principle And Interpretation

The use of media with an acid pH that selectively inhibits the growth of bacteria and thereby promotes the growth of fungi has been widely employed (1,2,3). A number of investigators have reported, however, that acidified media may actually inhibit fungal growth (4,5), fail to completely inhibit bacterial growth (4) and have little effect in restricting the size of mold colonies (6) Smith and Dawson (7) used rose bengal in a neutral pH medium for the selective isolation of fungi from soil samples. Chloramphenicol, streptomycin, oxytetracycline and chlortetracycline have been used for the improved, selective isolation and enumeration of yeasts and molds from soil, sewage and foodstuffs (5,8-11).

Rose Bengal Agar Base is a modification of the Rose Bengal Chlortetracycline Agar formula of Jarvis (9). Instead of chlortetracycline, chloramphenicol is employed in this medium as a selective supplement. Of the antibiotics most frequently employed in media of neutral pH, Chloramphenicol is recommended because of its heat stability and broad antibacterial spectrum (12). Rose Bengal Agar media are recommended in standard methods for the enumeration of yeasts and molds from foodstuffs and water. (12-14).

Peptone special provides the carbon and nitrogen sources required for good growth of a wide variety of organisms. Dextrose is an energy source. Monopotassium phosphate provides buffering capability. Magnesium sulfate provides necessary trace elements. Rose bengal is included as a selective agent that inhibits bacterial growth and restricts the size and height of colonies of the more rapidly growing molds. The restriction in growth of molds aids in the isolation of slow-growing fungi by preventing overgrowth by more rapidly growing species. Rose bengal is taken up by yeast and mold colonies, thereby facilitating their recognition and enumeration. Chlortetracycline Selective Supplement (FD120) is an antimicrobial supplement containing Chlortetracycline, which inhibits bacteria.

Due to the selective properties of this medium and the type of specimen being cultured, some strains of fungi may grow poorly or fail to grow on the complete medium; similarly, some strains of bacteria may also not be inhibited or only partially inhibited.

Care should be taken not to expose this medium to light, since photodegradation of rose bengal yields compounds that are toxic to fungi (13, 15).

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

Deep pink coloured clear to very slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.16% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

M1584: Cultural characteristics observed after an incubation at 25°C for 5 days with added Chlortetracycline Selective Supplement(FD120).

Organism	Growth
* <i>Aspergillus brasiliensis</i> ATCC 16404	good-luxuriant
<i>Bacillus subtilis</i> ATCC 6633	inhibited
<i>Cladosporium</i> <i>cladosporioides</i> ATCC 45534	good-luxuriant
<i>Escherichia coli</i> ATCC 25922	inhibited
<i>Enterococcus faecalis</i> ATCC 29212	inhibited
<i>Mucor racemosus</i> ATCC 42647	good-luxuriant
<i>Pencillium notatum</i> ATCC 10108	good-luxuriant
<i>Saccharomyces cerevisiae</i> ATCC 9763	good-luxuriant

*Key: Formerly known as *Aspergillus niger* ATCC 16404

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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