

Technical Information

Chlamyospore Agar

Product Code: DM 1113

Application: - Chlamyospore Agar is used for differentiating *Candida albicans* from other species of *Candida* on the basis of chlamyospore formation.

Composition**

Ingredients	Gms / Litre
Ammonium sulphate	1.000
Monopotassium phosphate	1.000
Biotin	0.000005
Trypan blue	0.100
Purified polysaccharide	20.000
Agar	15.000
Final pH (at 25°C)	5.1±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Candida albicans is a diploid sexual fungus (a form of yeast), and the causative agent of oral thrush and vaginal infections in humans ⁽¹⁾. *C. albicans* is a commensal of skin, gastrointestinal and genitourinary tract. However, under certain conditions overgrowth of this results into oesopharyngeal candidiasis, vulvovaginal candidiasis and candidemia. Chlamyospores formation is the most differential characteristic of *C. albicans* ⁽¹⁾. Chlamyospore Agar was specially designed to study the differentiation of *C. albicans* from other species on the basis of chlamyospores formation. It is prepared according to the formula of Nickerson and Mankowshi ⁽²⁾.

Ammonium sulphate acts as sources of ions that simulate metabolism. Monopotassium phosphate provides buffering to the medium. Biotin provides the necessary vitamins required for metabolism. Purified polysaccharide acts as a source of carbon. Trypan blue is a vital dye absorbed selectively by the chlamyospores and imparts blue colour to chlamyospores, whereas the filaments are colourless.

Test for chlamyospores: Scratch cut mark like X onto the agar surface with inoculum using sterile needle. Aseptically place an alcohol-flamed and cooled cover slip onto the agar surface over the intersecting lines of the cut marks of X. Incubate plates at 20-25°C for 2-6 days. Temperature should not be higher than 25°C since it will not permit chlamyospore formation. Observe the plates under low power of microscope. After incubation, most strains of *C. albicans* and *C. stellatoide* will form typical chlamyospores. Chlamyospores will be seen along the edge of the cover slip. Chlamyospores are round, thick walled, blue coloured and at the terminal ends of hyphae.

Some *C. albicans* strains may lose their ability to produce chlamyospores after repeated subculturing.

Methodology

Suspend 37.1 grams of powder media in 1000 ml distilled water. Shake well & heat 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.

Quality Control

Physical Appearance

Cream to blue homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Blue coloured, opaque gel forms in Petri plates

Reaction

Reaction of 3.71% w/v aqueous solution at 25°C. pH : 5.1±0.2

pH range 4.90-5.30

Cultural Response/ characteristics

DM 1113: Cultural characteristics observed after an incubation at 20-25°C for 2-6 days.

Organism

Candida albicans ATCC 10231

Candida kruisei ATCC 24408

Candida minosa

Candida tropicalis ATCC 1369

Growth

good-luxuriant

good-luxuriant

good-luxuriant

good-luxuriant

Chlamyospores

positive

negative

negative

negative

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Ryan K. J., Ray C. G., (Eds.), 2004, Sherris Medical Microbiology, 4th Ed., McGraw Hill.
2. Nickerson, 1953, J. Infect. Dis., 92:20.

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