# Candida Medium

**M104**

Candida Medium is used for cultivating *Candida* species.

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| Mycological peptone | 2.500 |
| Dextrose | 5.000 |
| Disodium hydrogen phosphate | 5.000 |
| Sodium sulphite | 5.000 |
| Bismuth sulphite indicator | 3.000 |
| Agar | 15.000 |
| Final pH ( at 25°C) | 7.6±0.2 |

**Formula adjusted, standardized to suit performance parameters

## Directions

Suspend 35.5 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 50 - 52°C and aseptically add 0.3 units of Penicillin and 25 µg Streptomycin per ml of sterile medium. Mix well and pour into sterile Petri plates.

## Principle And Interpretation

*Candida* is a genus of yeasts responsible for infections such as osopharyngeal candidiasis, vaginal candidiasis and candidemia. Candida Medium is used for the selective cultivation and differentiation of *Candida species* . Candida Medium was originally developed by Nickerson (1). It is also used for processing and inoculation of specimens like tissues, skin scrapping, nails and hair (2, 3).

Mycological peptone in the medium provides essential nitrogenous nutrients while dextrose acts as carbon source and phosphate maintains buffering action of medium. This medium also contains sodium sulphite, which is reduced by *Candida* species to form sulphide. Bismuth in the medium combines with the sulphide to produce brown to black pigmented colonies and zones of dark precipitate in the medium surrounding the colonies of some species. Bismuth sulphite also acts as an inhibitor of bacterial growth. Selectivity of medium is increased by incorporation of penicillin and streptomycin in the medium, which helps to suppress the growth of many bacteria.

Differentiation of *Candida* is based on the growth patterns and pigmentation of isolated colonies.

## Quality Control

**Appearance**
Cream to yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.5% Agar gel

**Colour and Clarity of prepared medium**
Light yellow coloured, clear to slightly opalescent gel forms in Petri plates

**Reaction**
Reaction of 3.55% w/v aqueous solution at 25°C. pH : 7.6±0.2

**pH**
7.40-7.80

**Cultural Response**
M104: Cultural characteristics observed after an incubation at 30°C for 24-48 hours.

| Organism | Inoculum (CFU) | Growth | Recovery |
|---|---|---|---|

| | | | |
|---|---|---|---|
| *Candida albicans ATCC 10231* | 50-100 | good-luxuriant | >=50% |
| *Candida tropicalis ATCC 1369* | 50-100 | good-luxuriant | >=50% |
| *Escherichia coli ATCC 25922* | >=$10^3$ | inhibited | 0% |

## 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

1. Nickerson, 1953, J. Infect. Dis., 93:43.
2. Haley, Trandel and Coyle, 1980, Cumitech 11, Practical Methods for Culture and Identification Of Fungi In The Clinical Mycology Laboratory, Coord Ed., Sherris, ASM, Washington, D.C.
3. Emmons, Binford, Utz and Kwon-Chung, 1977, Medical Mycology, 3rd Ed. , W. B. Saunders Co., Philadelphia.

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