TM 1102 – TOC AGAR

INTENDED USE

For presumptive identification and differentiatioin of *Candida albicans* and *Cryptococcus neoformans*.

PRODUCT SUMMARY AND EXPLANATION

Candida are yeast-like fungus forming normal flora inhabiting the mouth and throat, the intestinal tract and the genital tract. Under certain conditions, they cause life-threatening diseases particularly in immunocompromised patients. *Candida albicans* is the species most commonly isolated from patients with nearly all forms of candidiasis. *Cryptococcus neoformans* is often cultured from the urine of patients with disseminated infection. *Cryptococcosis* is one of the defining diseases associated with AIDS. TOC Agar is a multi-purpose medium developed by Fleming et al for the rapid, presumptive identification of *C. albicans* and *C. neoformans*. Both species are common clinical isolates that may be presumptively identified by specific morphological characteristics. *C. albicans* and *C. stellatoides* may be presumptively identified on this medium by the formation of germ tubes and chlamydospores.

For the germ tube test, lightly touch a single colony from TOC Agar with a loop or Pasteur pipette; remove excess inoculum and then emulsify the yeast cells in 0.5 ml of horse or other serum in a small test tube with a loose cotton-wool plug. Failure to achieve a light inoculum inhibits germ-tube formation. Incubate at 37°C in a water bath for 2-4 hours. A drop of suspension is then placed on a glass slide and covered with coverslip. Microscopic examination of typical *C. albicans* reveals thin germ tubes 3 to 4 mm in diameter and up to 20 mm long; unlike pseudohyphae that are not constricted at their point of origin.

COMPOSITION

Ingredients	Gms / Ltr
Ox bile	10.000
Sorbitan monooleate 80	10.000
Caffeic acid	0.300
Agar	20.000

PRINCIPLE

A combination of sorbitan monooleate 80 and oxbile promotes their rapid, sequential development. *C. neoformans* may be identified by the production of a characteristic brown pigment on this medium. Caffeic acid is the substrate for phenol oxidase, an enzyme produced only by *C. neoformans*. The subsequent enzymatic reaction produces melanin, which is absorbed by the yeast cell wall resulting in tan to brown pigmentation.

INSTRUCTION FOR USE

- Suspend 40.3 grams in 1000 ml distilled water.
- Mix thoroughly. Gently heat and bring to boiling.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 50°C and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Yellow coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 6.5±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

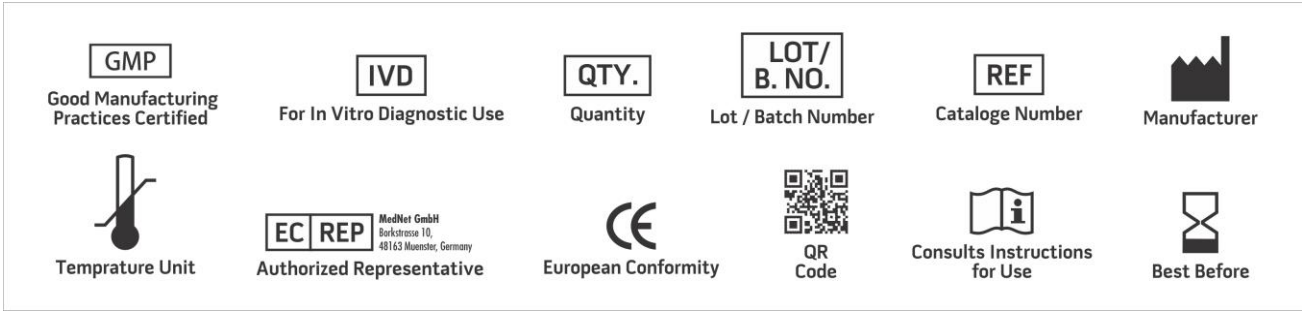
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Candida albicans	10231	10-100	Luxuriant (Formation of germ tubes within 3-4 hours and chlamydospores within 48 hours)	>=70%	30°C	24-48 Hours
Cryptococcus neoformans	32045	10-100	Luxuriant (Brown colony growth within 48 hours of incubation)	>=70%	30°C	24-48 Hours

PACKAGING:
In pack size of 100 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
1. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2. Fleming W. H., Hopkins J. M. and Land, 1977, J. Clin. Microbiol., 5:236.
3. Lennette E. H., Balows A., Hausler W. J. and Shadomy H. J.,(Eds.), 1985, Manual of Clinical Microbiology, 4th Ed., ASM, Washington, D.C.
4. Finegold S. M. and Baron E. J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th Ed., The C.V. Mosby Company, St. Louis.
5. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
6. Campbell M. C. and Stewart J. L., 1980, The Medical Mycology Handbook, John Wiley and sons, New York. 7. Ajello L., Georg L. K., Kaplan W. and Kaufman L., 1963, Laboratory Manual for Medical Mycology, DHEW Publication No. 994, US Govt. Printing Office, Washington, D.C.
8. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**

Revision: 08 Nov., 2019