

Abstract accepted for publication only
Diagnostic/laboratory methods (other than molecular)

Abstract: R2229

Citation: Clinical Microbiology and Infection. Volume 16 Supplement No. 2, Page S666

Evaluation of four chromogenic media for the presumptive identification and differentiation of yeasts

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Objectives: Several commercial chromogenic media have been developed for species identification of clinical yeasts. In this comparative study, four chromogenic media, CHROMagar *Candida* (CAC) (CHROMagar, France), Albicans ID2 agar (AID) (bioMérieux, France), Candiselect medium (CS) (Biorad, France) and chromID *Candida* Agar (CAN2) (bioMérieux, France) were evaluated for the presumptive identification of yeasts.

Methods: Totally 125 clinical yeast isolates, 62 *Candida albicans*, 18 *C. tropicalis*, 17 *C. glabrata*, 13 *C. parapsilosis*, five *C. krusei*, five *Trichosporon* spp., three *C. kefyr*, one *C. guilliermondii* and one *Geotrichum candidum* were included in the study. The isolates were identified by germ tube test, morphological characteristics on corn meal tween 80 agar and API 20 C AUX system. The isolates were cultured to Sabouraud dextrose agar from stock cultures and after 48 hours streaked onto CAC, AID, CS and CAN2 plates. The plates were evaluated by considering the colour, texture of the colonies and the existence of halo around the colony by three different people after 24, 48 and 72 hours of incubation at 37°C in the dark.

Results: All of the isolates grew well on the four media tested. The sensitivity and specificity values for *C. albicans* were detected as 100% and 100% for CAC; 98.4-100% and 96.8-100% for AID; 96.8-100% and 96.8% for CS; 98.4% and 96.8 for CAN2 at different incubation periods, respectively. These values for *C. tropicalis* were 94.4-100% and 100% for CAC; 83.3-94.4% and 96.3-98.1% for CS, respectively. CAC was found to be 11.8-88.2% sensitive and 100.0% specific for *C. glabrata*; 100% and 92.2% sensitive and specific for *C. krusei*. The sensitivity and specificity for *C. tropicalis* and *C. kefyr* were able to be calculated together as these species grow by forming the same colour on CAN2 and these values were found to be 90.5% and 99.9%, respectively.

Conclusion: In our study, CAC, AID, CS and CAN2 plates showed similar performances with respect to *C. albicans* identification and CAC and CS to *C. tropicalis*. As a result, CAC can be recommended as a reliable medium for the presumptive identification of *Candida* species as it can differentiate four species, *C. albicans*, *C. tropicalis*, *C. glabrata* and *C. krusei* successfully.