

CANDIDA SCREEN

DISCUSSION:

Candida albicans produces enzymes which hydrolyze specific substrates. The hydrolysis of the substrates will produce end products which are visible after addition of reagents. Candida screen, by combining two non-interfering substrates (o-nitrophenyl- N-acetyl- β -D Galactosaminide, and Proline naphthylamide), allows presumptive identification of *C. albicans* in 90 minutes.

MSDS/STORAGE

None of the ingredients is hazardous in the amounts present in each disc. Uninoculated discs may be discarded in normal trash. Reagent 1 contains a weak solution of KOH and is mildly corrosive. Reagent 2 contains weak hydrochloric acid, will stain surfaces and hands, and is mildly corrosive.

Store all materials in the refrigerator (2-9C) between uses. It is not necessary to bring discs or reagents to room temperature before use.

MATERIALS REQUIRED:

K9142 Discs are sold 25 discs per bottle with reagents provided. Usage requires a pure 24 hour culture on appropriate media. The following items are also required but not provided:

Loops for harvesting colonies,
Distilled water, and test tubes

PROCEDURE:

- 1) Place disc into test tube. Add 3-5 drops of distilled water, neutral pH.
- 2) Inoculate to at least a Mcfarland 3 with colonies harvested from a pure culture.
- 3) Incubate for 90 minutes at 35c.

INTERPRETATION:

1) After 90 minutes, add 1 drop of Reagent 1 and observe for the immediate development of a bright yellow color. A bright yellow color is positive, indicating that the organism has hydrolyzed the O-nitrophenol-N-Acetyl- β -D-galactosaminide. When using 3 drops of water, the yellow color may be visible without adding reagent.

2) Next, perform the second test by adding 1 drop of Reagent 2 to the test and observing for rapid development of color. A positive test will turn red or deep pink. Orange or yellow is negative. A positive test indicates that the organism has hydrolyzed the Proline Naphthylamide. Do not allow the tests to stand after addition of reagent, as false positives may develop with passage of time.

3) If both tests are positive, you may make a presumptive identification of *Candida albicans*. Other yeasts will be negative for either or both of the tests.

LIMITATIONS:

Candida screen is part of an overall program for identification of yeasts, and only provides a high probability for presumptive separation of *C. albicans* from other yeasts. There are rare instances where another yeast (specifically *Candida parapsilosis*) may be positive for both tests. As reported in current literature, less than 1% of tests demonstrate this conflict. For specific identification, additional testing is required. Mixed cul-

tures may produce unreliable results, as may cultures less than 18-24 hours or more than 72 hours old.

QUALITY CONTROL:

For quality control, Key Scientific Products recommends using *Candida albicans*, ATCC 60193 and *Candida krusei* ATCC 6258.

REFERENCES:

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4. Perry, J.L., G.R. Miller. Umbelliferyl-labeled galactosaminide as an aid in identification of *Candida albicans*. J. Clin Microbiol 25: 2424-2425, 1987.
5. Perry, Jack L., Glendon R. Miller, and Dennis L. Carr Rapid, Colorimetric Identification of *Candida albicans*. J. Clin Microbiol. May 1990. pp 614-615.



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