

Candida Identification Kit

Intended Use

A panel of 12 test for identification of *Candida* species (Kit contains sterile medium for Urease Detection and 11 different carbohydrates-Melibiose, Lactose, Maltose, Sucrose, Raffinose, Galactose, Trehalose, Cellobiose, Inositol, Xylose, Dulcitol).

Summary

Candida species belong to the normal microbiota of an individual's mucosal oral cavity, gastrointestinal tract and vagina, and are responsible for various clinical manifestations from mucocutaneous overgrowth to bloodstream infections. The complete list of microorganisms that is possible to identify with this system is given in the identification table at the end of this package insert.

Principle

Microexpress® Candida Identification Kit is a standardized identification system, comprising 12 miniature biochemical tests for identification of *Candida* species. This kit contains sterile media for colorimetric identification using biochemical test and carbohydrate utilization tests based on principle of pH change and substrate utilization designed to identify various metabolic properties of different bacterial species. On incubation for an appropriate period, the media are examined for colour change. The results of these tests on the suspected organism are then compared to known standards to confirm its identification.

Kit Contents

1. 1 Kit of Candida Identification Kit
2. Technical Product Insert with Result Interpretation Chart, Result Entry Data Sheet and Identification Index

Note: Microexpress® Candida Identification Kit contains sufficient material to perform one test.

Biochemical Tests

Microexpress® Candida Identification Kit is a reagent set for laboratory use only.

Kit comprises of sterile test medium for:

- a) Urease Detection (V17)
- b) Melibiose Utilization (V32)
- c) Lactose Utilization (V28)
- d) Maltose Utilization (V29)
- e) Sucrose Utilization (V37)
- f) Raffinose Utilization (V33)
- g) Galactose Utilization (V25)
- h) Trehalose Utilization (V38)
- i) Cellobiose Utilization (V22)
- j) Inositol Utilization (V27)
- k) Xylose Utilization (V39)
- l) Dulcitol Utilization (V23)

Additional Materials Required

0.9% saline, micropipettes, culture media, activated 2% glutaraldehyde solution, sterile test tubes.

Directions

Preparation of Inoculum:

1. Isolate the organism to be identified on Soyabean Casein Digest Agar (201190210500) or Nutrient Agar (201140030500).
2. Pick up 1-3 well isolated colonies and make a homogenous suspension in 2-3 mL sterile saline.
3. Match the turbidity of this suspension to McFarland standard number 0.5.

Note: Erroneous false negative results may be obtained if the inoculum turbidity is less than McFarland standard number 0.5.

Inoculation of the Vials:

1. Bring the kit components to room temperature before testing.
2. Open the kit aseptically.
3. Inoculate each vial with 100 µL of the above-prepared inoculum by surface inoculation method.
4. Incubate at 35°C-37°C and read the result at 18-24 hours of incubation.
5. Alternatively, the kit can be inoculated by stabbing each individual well with a loopful of inoculum.

Identification Index

Organisms / Tests	Urease Detection	Melibiose Utilization	Lactose Utilization	Maltose Utilization	Sucrose Utilization	Galactose Utilization	Cellobiose Utilization	Inositol Utilization	Xylose Utilization	Dulcitol Utilization	Raffinose Utilization	Trehalose Utilization
<i>Candida albicans</i>	-	-	-	+	-	+	-	-	+	-	-	+
<i>Candida catenulata</i>	-	-	-	+	-	+	-	-	+	-	-	-
<i>Candida dubliniensis</i>	-	-	V	+	+	+	-	-	V	-	-	+
<i>Candida famata</i>	-	+	+	+	W	+	+	-	+	V	+	W
<i>Candida glabrata</i>	-	-	-	+	-	-	-	-	-	-	-	+
<i>Candida guilliermondii</i>	-	+	-	+	+	V	+	-	+	+	+	+
<i>Candida kefyr</i>	-	-	V	-	+	+	V	-	V	-	+	-
<i>Candida lambica</i>	-	-	-	-	-	-	-	-	+	-	-	-
<i>Candida lusitanae</i>	-	-	-	+	+	+	+	-	+	-	-	+
<i>Candida parapsilosis</i>	-	-	-	+	+	+	-	-	+	-	-	+
<i>Candida pintolopesii</i>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Candida rugosa</i>	-	-	-	-	-	+	-	-	V	-	-	-
<i>Candida tropicalis</i>	-	-	-	+	+	V	+	-	+	-	-	V
<i>Candida zeylanoides</i>	-	-	-	-	-	-	V	-	-	-	-	+
<i>Candida pseudotropicalis</i>	-	-	+	-	+	+	+	-	V	ND	+	-
<i>Candida stellatoidea</i>	-	-	-	+	-	+	-	-	+	ND	-	V

Key:

Based on % strains showing reactions following symbols have been assigned from laboratory results and standard references.

+: 90% or more strains are positive; -: 90% or more strains are negative; ND: Not Determined; W: Weak reaction; V: Variable

Result Interpretation Chart

Code	Test	Principle	Original colour of medium	Positive reaction	Negative reaction
V17	Urease Detection	Detects urease enzyme	Orangish yellow	Pink	Orangish yellow
V32	Melibiose Utilization	Detects melibiose utilization	Red	Yellow	Red / Pink
V28	Lactose Utilization	Detects lactose utilization	Red	Yellow	Red / Pink
V29	Maltose Utilization	Detects maltose utilization	Red	Yellow	Red / Pink
V37	Sucrose Utilization	Detects sucrose utilization	Red	Yellow	Red / Pink
V25	Galactose Utilization	Detects galactose utilization	Red	Yellow	Red / Pink
V22	Cellobiose Utilization	Detects cellobiose utilization	Red	Yellow	Red / Pink

Code	Test	Principle	Original colour of medium	Positive reaction	Negative reaction
V27	Inositol Utilization	Detects inositol utilization	Red	Yellow	Red / Pink
V39	Xylose Utilization	Detects xylose utilization	Red	Yellow	Red / Pink
V23	Dulcitol Utilization	Detects dulcitol utilization	Red	Yellow	Red / Pink
V33	Raffinose Utilization	Detects raffinose utilization	Red	Yellow	Red / Pink
V38	Trehalose Utilization	Detects trehalose utilization	Red	Yellow	Red / Pink

Result Entry Data Sheet

Sample Number	V17 Urease Detection	V32 Melibiose Utilization	V28 Lactose Utilization	V29 Maltose Utilization	V37 Sucrose Utilization	V25 Galactose Utilization
Sample Number	V22 Cellobiose Utilization	V27 Inositol Utilization	V39 Xylose Utilization	V23 Dulcitol Utilization	V33 Raffinose Utilization	V38 Trehalose Utilization

Interpretation of Results

1. Add the reagents in the required vials at the end of incubation period.
2. Interpret results as per the standards given in the result interpretation chart.

Remarks

1. Microexpress® Candida Identification Kit is an *In vitro* diagnostic kit for laboratory and professional use only. Not for medicinal use.
2. This kit cannot be used directly on clinical specimens. Only pure cultures should be used to obtain optimum results.
3. Do not use damaged or leaking kits. Avoid contact of reagents with skin and eyes.
4. Erroneous false negative results may be obtained if inoculum turbidity is less than McFarland standard number 0.5.
5. At times, the organism may give contradictory results because of mutation or media used for isolation, cultivation and maintenance. Results are prominent when fresh and enriched culture is used.
6. In case of carbohydrate fermentation some microorganisms may show weak reaction. Incubate further for 72 hours. Orange colour seen after 72 hours should be a negative reaction.
7. Identification index has been compiled based on standard references and results of tests obtained in the laboratory.
8. Clinical samples and microbial cultures should be considered as pathogenic biohazard and handled accordingly. Good laboratory practices and hazard precautions must be observed at all times.

Storage and Stability

1. Store the kit at 2°C-8°C. Do Not Freeze.
2. Stability of the kit is as per the expiry date mentioned on the label.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Practical Medical Microbiology, Mackie & McCartney, 13th edition 1989, Edited by J. G. Collee, J. P. Duguid.
2. Clarke P.H. And S.T. Cowan, Biochemical Methods for Bacteriology, J. Gen. Microbiol., 1952, Vol. 6: 187-197.
3. Rapid methods for identification of yeasts, M. Huppert et. Al, J. Clin.Microbiol; 1975, 2: p 21-34. Dolan C.T. and M.R.Woodward 1971.
4. A practical approach to identification of yeast like microorganisms, Am. J. Clin. Pathol; 55: 580-590.

5. Sardi J.C.O., Scorzoni L., Bernardi T., Fusco-Almeida A.M., Mendes Gianini M.J.S., 2013, Candida species: current epidemiology, pathogenicity, biofilm formation, natural antifungal products and new therapeutic options, Journal of Medical Microbiology, 62: 10-24.
6. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat. No.	Product Description	Pack Size
203030370001	Biochemical Identification Kit	1 Kit (1 Test)

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
