FF MicroPlate™

A1 Water	A2 Tween 80	A3 N-Acetyl-D-Galactosamine	A4 N-Acetyl-D-Glucosamine	A5 N-Acetyl-D-Mannosamine	A6 Adonitol	A7 Amygdalin	A8 D-Arabinose	A9 L-Arabinose	A10 D-Arabitol	A11 Arbutin	A12 D-Cellobiose
B1 α-Cyclodextrin	B2 β-Cyclodextrin	B3 Dextrin	B4 i-Erythritol	B5 D-Fructose	B6 L-Fucose	B7 D-Galactose	B8 D-Galacturonic Acid	B9 Gentiobiose	B10 D-Gluconic Acid	B11 D-Glucosamine	B12 α-D-Glucose
C1 Glucose-1-Phosphate	C2 Glucuronamide	C3 D-Glucuronic Acid	C4 Glycerol	C5 Glycogen	C6 m-Inositol	C7 2-Keto-D-Gluconic Acid	C8 α-D-Lactose	C9 Lactulose	C10 Maltitol	C11 Maltose	C12 Maltotriose
D1 D-Mannitol	D2 D-Mannose	D3 D-Melezitose	D4 D-Melibiose	D5 α-Methyl-D-Galactoside	D6 β-Methyl-D-Galactoside	D7 α-Methyl-D-Glucoside	D8 β-Methyl-D-Glucoside	D9 Palatinose	D10 D-Psicose	D11 D-Raffinose	D12 L-Rhamnose
E1 D-Ribose	E2 Salicin	E3 Sedoheptulosan	E4 D-Sorbitol	E5 L-Sorbose	E6 Stachyose	E7 Sucrose	E8 D-Tagatose	E9 D-Trehalose	E10 Turanose	E11 Xylitol	E12 D-Xylose
F1 γ-Amino-butyric Acid	F2 Bromosuccinic Acid	F3 Fumaric Acid	F4 β-Hydroxy-butyric Acid	F5 γ-Hydroxy-butyric Acid	F6 p-Hydroxyphenyl-acetic Acid	F7 α-Keto-glutaric Acid	F8 D-Lactic Acid Methyl Ester	F9 L-Lactic Acid	F10 D-Malic Acid	F11 L-Malic Acid	F12 Quinic Acid
G1 D-Saccharic Acid	G2 Sebacic Acid	G3 Succinamic Acid	G4 Succinic Acid	G5 Succinic Acid Mono-Methyl Ester	G6 N-Acetly-L-Glutamic Acid	G7 Alaninamide	G8 L-Alanine	G9 L-Alanyl-Glycine	G10 L-Asparagine	G11 L-Aspartic Acid	G12 L-Glutamic Acid
H1 Glycyl-L-Glutamic Acid	H2 L-Ornithine	H3 L-Phenylalanine	H4 L-Proline	H5 L-Pyroglutamic Acid	H6 L-Serine	H7 L-Threonine	H8 2-Amino Ethanol	H9 Putrescine	H10 Adenosine	H11 Uridine	H12 Adenosine-5'-Monophosphate

FIGURE 1. Carbon Sources in FF MicroPlate

INTRODUCTION

Over the past several years, mycology has emerged as an increasingly important part of the microbiology laboratory. Fungal contaminants can contribute to significant losses in food and industrial processes. Environmental monitoring over the last several years has focused increasingly on fungal isolates as the source of conditions such as sick building syndrome. In agriculture, fungal pathogens cause serious problems requiring constant attention from phytopathologists. In human disease, the list of fungal pathogens has grown in the clinical laboratory due to an increased population of immunocompromised patients.

The Biolog FF MicroPlate™ (Figure 1) is the first broad based rapid identification and characterization product designed for filamentous fungi and yeast, including species from the genera *Aspergillus, Penicillium, Fusarium, Alternaria, Mucor, Gliocladium, Cladosporium, Paecilomyces, Stachybotrys, Trichoderma, Zygosaccharomyces, Acremonium, Beauveria, Botryosphaeria, Botrytis, Candida,* and *Geotrichum.*

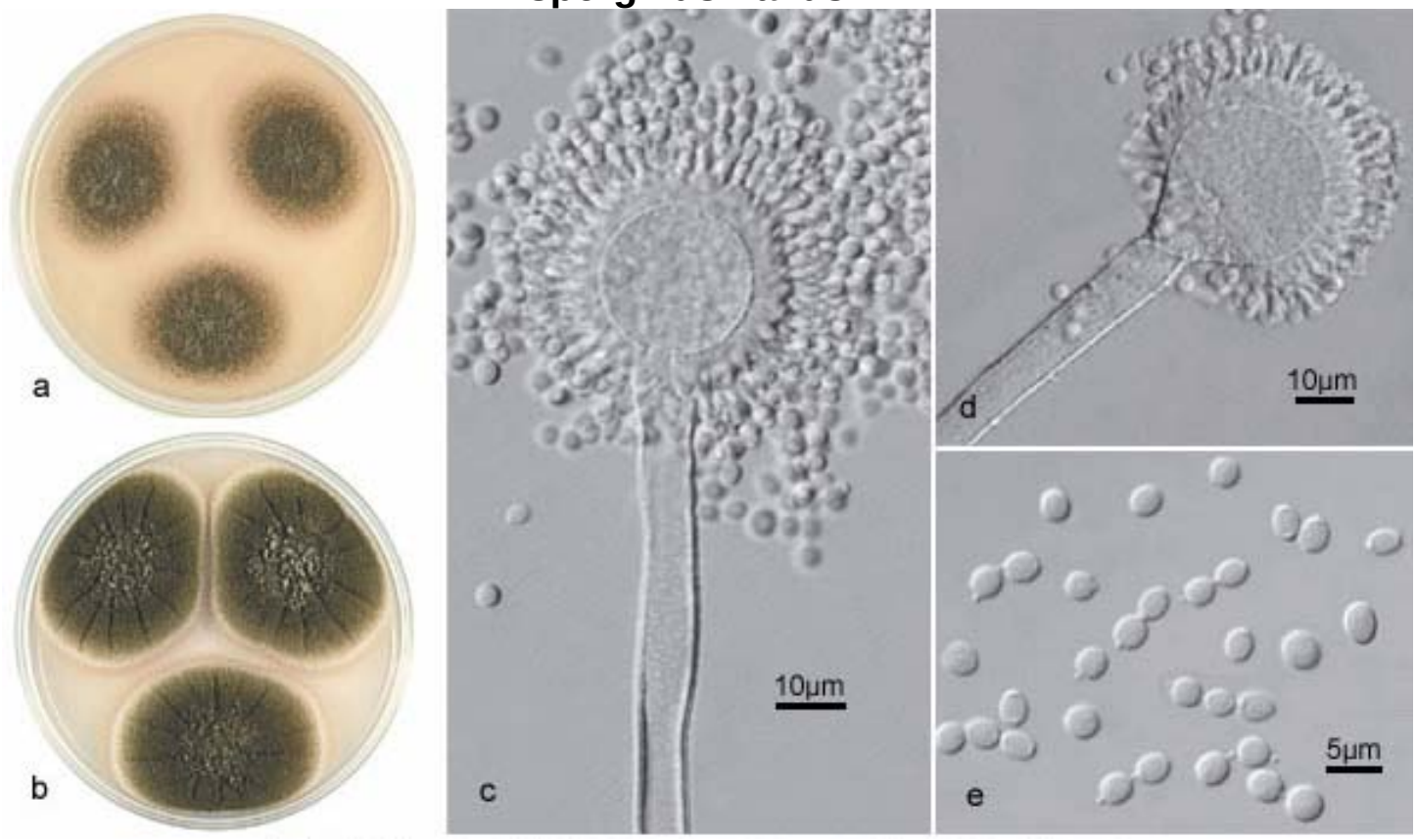
The FF MicroPlate employs a redox chemistry similar to Biolog's other proven microbial identification/characterization products. This chemistry, based on reduction of tetrazolium, responds to the process of metabolism (oxidation of substrates). Biolog's universal chemistry works with any carbon source and greatly simplifies the testing process, as no color developing chemicals need to be added after incubation. The FF database also analyzes fungal growth via turbidimetric analysis.

Analysis of both color development and turbidity provides for extremely accurate identifications to the species level. There are currently over 70,000 named species of an estimated 250,000 species of fungi. For scientists working with fungi outside the Biolog database, the FF MicroPlate and MicroLog™ software have been designed to allow the user to create their own database by adding the patterns produced by new cultures.

FF DATABASE PHOTO LIBRARY

An important added feature of the FF Database is a unique library of macroscopic and microscopic fungal photographs of the fungi to aid in the identification of unknown organisms. This tool can be used to confirm the identification of unknown organisms by providing a visual and morphological verification of each species identified. The following two blocks of photos and captions are examples taken directly from the database software. Please note that the macroscopic photos are full color images.

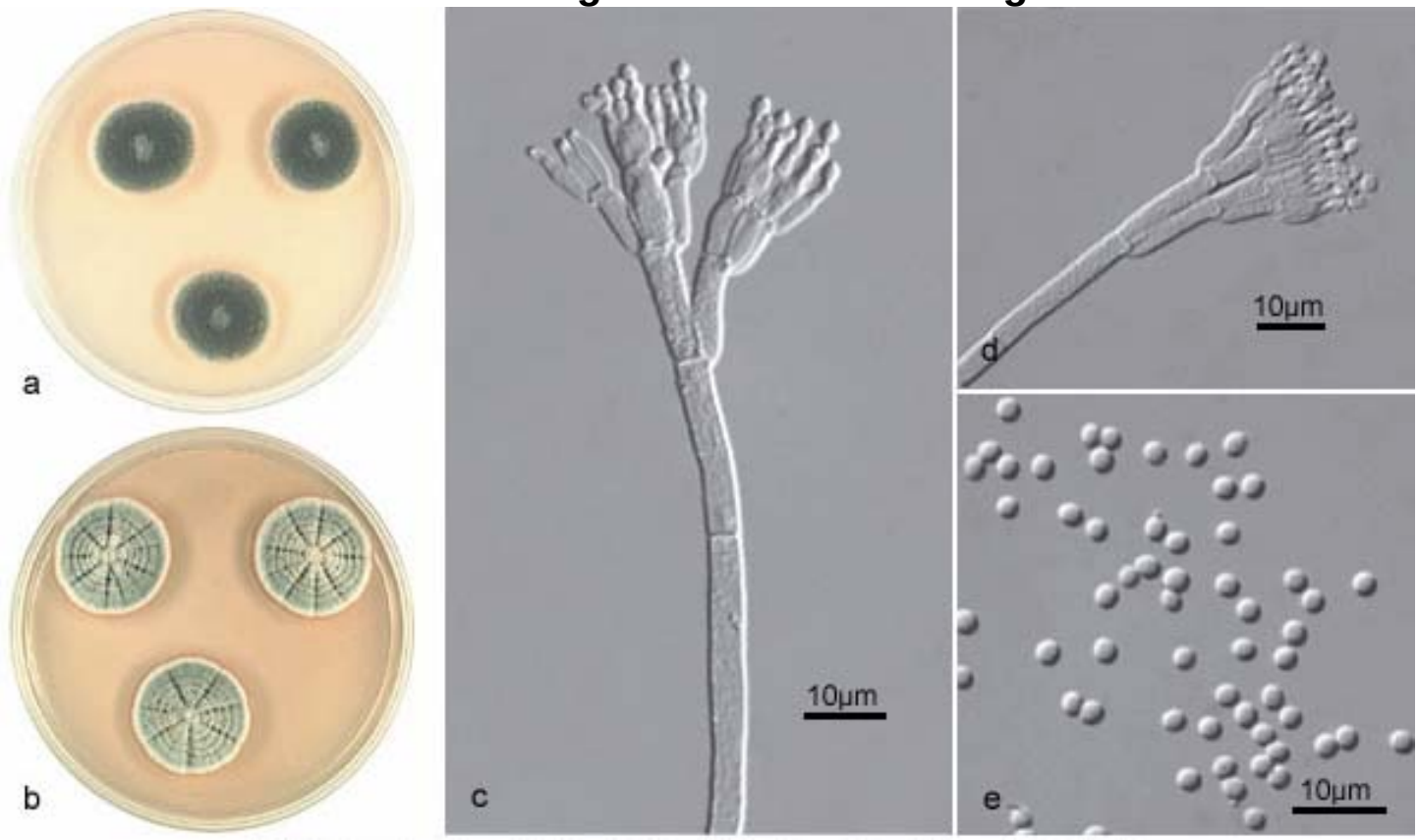
Aspergillus flavus



(a) MA, 7 days; (b) CYA, 7 days; (c,d) conidiophores; (e) conidia.
(a-e) CBS 282.95.

Explanation of caption terminology: MA= Malt Extract Agar; CYA= Czapek Yeast Autolysate Agar
CBS 282.95, DAOM 216724 and CBS 324.89 are strain reference numbers.

Penicillium aurantiogriseum var. aurantiogriseum



(a) MA, 7 days; (b) CYA, 7 days; (c,d) conidiophores; (e) conidia.
(a,b) DAOM 216724; (c-e) CBS 324.89.

Fungi Identification Test Panel

FF MICROPLATE AND DATABASE

Most scientists performing identifications on fungal samples still use traditional methods of macroscopic and microscopic examination. The FF MicroPlate and Database provide a simple and accurate method as an alternative or as a complement to these traditional methods that require a high degree of skill, training, and judgment.

The Biolog FF MicroPlate performs 95 discrete tests simultaneously and gives a characteristic reaction pattern called a "fingerprint". These fingerprint reaction patterns provide a vast amount of information about the metabolic properties of each fungus tested, along with a species level identification. The FF Database contains over 400 taxa of fungi from over 120 genera.

PROCEDURE FOR USING FF MICROPLATE

The procedure is fast and simple, involving only 5 steps, and requiring only 2 to 3 minutes hands-on time per sample.

1) Grow a pure culture of a fungus on a 2% Malt Extract Agar plate (Biolog part number 71106 for pre-poured plates) until enough conidiation is present to prepare a suspension.
2) Swab the conidia from the surface of the agar plate, and suspend to a specified density in FF Inoculating Fluid (Biolog part number 72106).
3) Pipet 100 µl of suspension into each well of the FF MicroPlate (Biolog part number 1006).
4) Incubate the FF MicroPlate at 26° C for 24 – 96 hours.
5) Read the MicroPlates using the Biolog MicroStation™ Reader beginning 24 hours after inoculation.

BROAD COVERAGE, MANY APPLICATIONS

The Biolog FF Database is the first and only product of its kind. It has the largest database of any kit-based method for the identification of filamentous fungi. This superior product will be an invaluable addition to your microbiology laboratory. Included in this database are:

- Clinically important, allergenic and mycotoxigenic fungi – *Stachybotrys, Scopulariopsis, Paecilomyces, Cladosporium, Alternaria, Fusarium, Aspergillus*, etc.
- Significant indoor air fungi – *Penicillium, Aspergillus, Eurotium, Rhizopus, Stachybotrys, Neurospora, Wallemia*, etc.
- Environmentally important fungi – *Trichoderma, Fusarium, Mucor, Acremonium, Verticillium, Aureobasidium, Rhodotorula, Sporobolomyces*, etc.
- Plant pathogenic fungi – *Fusarium, Colletotrichum, Phoma, Botrytis*, etc.
- Food-borne fungi – *Penicillium, Aspergillus, Rhizopus, Moniliella, Cryptococcus, Candida, Saccharomyces*, etc.
- Broad coverage in important genera: over 60 *Aspergillus spp.*, over 80 *Pencillium spp.*, over 80 *Fusarium spp*.

For more information, contact us using the information below.

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