

COMING SOON!



BioPaddles™ Colony Identification App

SAB/SAB

Code 5551

USE:

Selective isolation of fungi (yeasts and molds) (**SAB**)Side 1 & 2: Sabouraud Dextrose Agar (**SAB**) (colorless / slightly hazy)

APPLICATION

Sabouraud Dextrose Agar (**SAB**) is a modification of dextrose agar described by Sabouraud.¹ SAB is used for cultivating pathogenic and commensal fungi and yeasts. The high dextrose concentration and acidic pH of the formula permit selectivity of fungi.² Sabouraud Dextrose Agar is used for determining the microbial content of cosmetics,³ in the mycological evaluation of food,⁴ and clinically to aid in the diagnosis of yeast and fungal infections.⁵

PADDLE AGARS

Sabouraud Dextrose Agar (SAB) – Enzymatic digest of casein and enzymatic digest of animal tissue provide the nitrogen and vitamin source required for organism growth in SAB. The high concentration of dextrose is included as an energy source. Agar and a proprietary polymer are the solidifying agents.

CULTURE CONTROLS

10-300 inoculum (CFU)

	SAB Agar
<i>Aspergillus niger</i>	GROWTH
<i>Candida albicans</i>	GROWTH
<i>Escherichia coli</i>	INHIBITED
<i>Microsporium canis</i>	GROWTH
<i>Trichophyton mentagrophytes</i>	GROWTH

¹ Sabouraud, R. 1892. Ann. Dermatol. Syphilol. 3:1061.

² Jarett, L., and A. C. Sonnenwirth (eds.). 1980. Gradwohl's and parasitic infections, 7th ed. American Public Health Association, Washington, D.C.

³ Curry, A. S., J. G. Graf, and G. N. McEwen, Jr. (eds.). 1993. CTFA Microbiology Guidelines. The Cosmetic, Toiletry, and Fragrance Association, Washington, D.C.

⁴ U.S. Food and Drug Administration. 1995. Bacteriological analytical manual, 8th ed. AOAC International, Gaithersburg, MD.

⁵ Murray, P. R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Tenover (eds.). Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.

STORAGE / EXPIRATION

Store tightly sealed BioPaddles™ in a cool, dry location (less than 68°F/20°C). Avoid temperature changes. BioPaddles™ may be refrigerated, but it is not necessary. Do not freeze. If freezing occurs, thaw (3-6 hours) under refrigeration temperatures (40°F; 4.4°C). Freezing can promote excess water loss and variation in media surface due to crystal formation. The average shelf-life is one year. Refer to expiration date (See: BBE stamped on vial). Discard if paddle agar appears oxidized (darkens from expected color). The expiration date applies to the medium in an intact container when stored as directed.

SAMPLING

Liquids: Twist to remove paddle from vial. Fill vial to 40 mL fill line with the liquid to be sampled. The 40 mL volume can be used to calculate Total Viable Count (TVC) and/or Total Colony Count (TCC). Replace paddle. Allow a contact time of 15 seconds. Remove the paddle. Empty the vial. Replace the paddle in the vial.



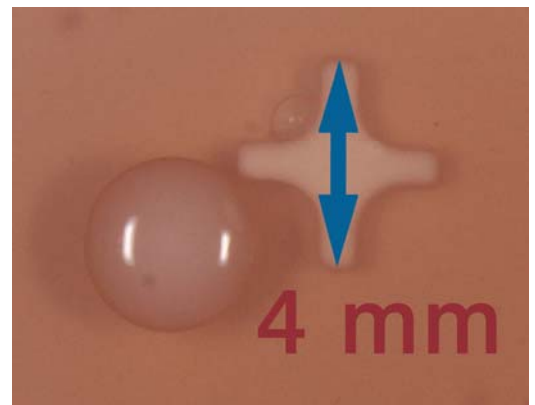
Surfaces: Twist to remove paddle from vial. Allow the paddle surface (10 cm²) to come into physical contact with the test surface. Recovery rate is about 50%. To insure an accurate recovery, gently sweep (or touch) the paddle to cover a 20 cm² area. Replace paddle in vial.

INCUBATION




Temperature	Minimum Period	Optimal Period
35°C (bacteria)	72 hours	5-7 days
20-25°C (fungi)	5 days	7 days


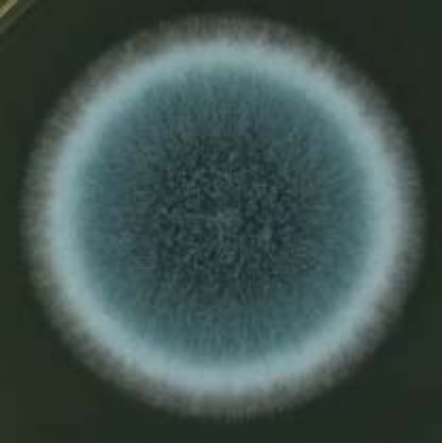
COLONY MEASURING

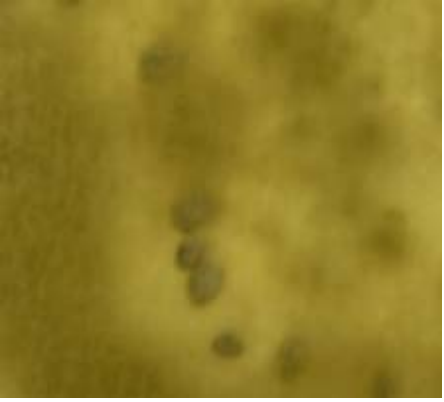

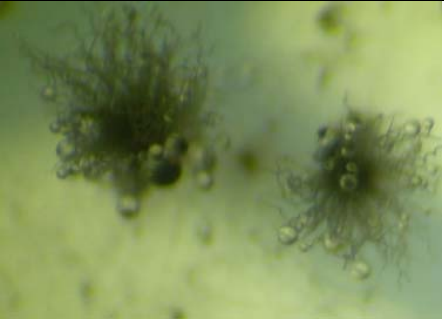
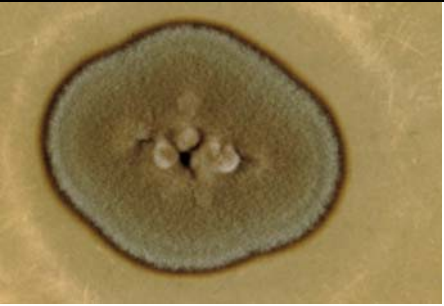
Each BioPaddles™ paddle has molded media attachment points that are 4mm in length (point-to-point). This feature provides a useful guidepost to estimating nearby colony size.



IDENTIFICATION

ORGANISM		SAB		
ORGANISM	PHYSIOLOGY ◆ Precision Test Strip Available	GROWTH	COLONY	IMAGE
<i>B. subtilis</i>	<ul style="list-style-type: none"> Lactose (-) Indole (-) ◆ Oxidase (-) ◆ Catalase (+) ◆ Urease (+) ◆ Gram (+) Rod 	+++	<ul style="list-style-type: none"> Translucent to dull, off-white; opaque Smooth to rough irregular / dendroid margins to spreading 2-4mm 	
<i>E. coli</i>	<ul style="list-style-type: none"> Lactose (+) Indole (+) ◆ Oxidase (-) ◆ Catalase (+) ◆ Urease (-) ◆ Gram (-) Rod 	PARTIAL - COMPLETE INHIBITION	---	---
<i>Alternaria spp.</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	++	<ul style="list-style-type: none"> Downy to woolly; flat Grayish, short, aerial hyphae later becomes greenish black or olive brown with a light border 2-5++cm 	
<i>Aspergillus niger</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> Granular White, w/ jet black fruiting bodies w/ yellow/gray hyphae 2-5++cm 	


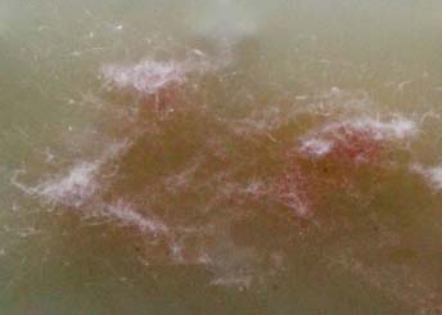


ORGANISM		SAB		
ORGANISM	PHYSIOLOGY ◆ Precision Test Strip Available	GROWTH	COLONY	IMAGE
<i>Aspergillus flavus</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> Granular to wooly Yellow, yellow-green or yellow-brown pigment 2-5++cm 	
<i>Aspergillus fumigatus</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> Granular to cottony Blue-green, green-gray, green-brown pigment 2-5++cm 	
<i>Aspergillus terreus</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> Granular, radially rugose (wrinkled) Cinnamon buff, brown pigment 2-5++cm 	IMAGE PENDING

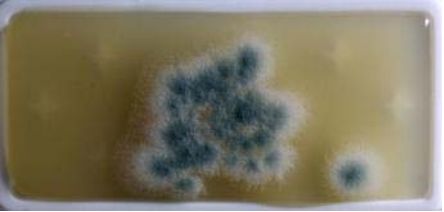



ORGANISM		SAB		
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<i>Botrytis spp.</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> Wooly white, grey/brown pigment 2-5++cm 	
<i>Candida albicans</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> White to cream Smooth /Spreading 2-6mm 	
<i>Chaetomium spp.</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> Wooly white, grey/olive pigment 2-5cm 	
<i>Cladosporium spp.</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+	<ul style="list-style-type: none"> Granular to wooly (velvety) Olive-brown to blackish-brown (sometimes gray) on a dark base 2-5++cm 	




For *in vitro* diagnostic use only. This product should be used only by adequately trained personnel with knowledge of microbiological techniques in the laboratory.

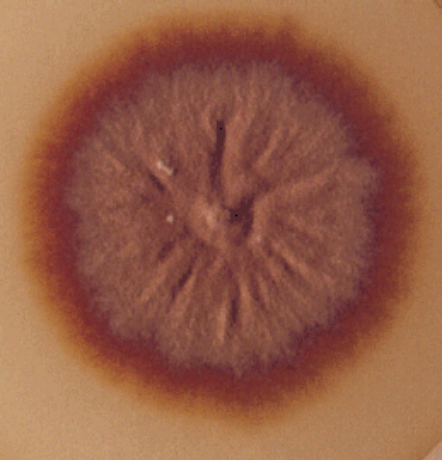
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ORGANISM		SAB		
ORGANISM	PHYSIOLOGY ◆ Precision Test Strip Available	GROWTH	COLONY	IMAGE
<i>Epicoccum spp.</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> Wooly / Cottony / Felty yellow, orange, red, brown pigment 2-5++cm 	
<i>Fusarium spp.</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+++	<ul style="list-style-type: none"> Wooly / Flat (sometimes mucous-like) White, yellow, pink, purple, or pale brown pigment 1-2cm 	
<i>Microsporium spp.</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Ascomycete 	+	<ul style="list-style-type: none"> Glabrous (smooth) / Downy / Wooly / Powdery White at first, later becoming grayish yellow to blue green with age 1-9+cm 	
<i>Muccor spp.</i>	<ul style="list-style-type: none"> Catalase (+) ◆ Zygomycete 	+++	<ul style="list-style-type: none"> Wooly, Fluffy (like cotton candy) White at first, later becoming grayish yellow to blue green with age 2-5++cm 	

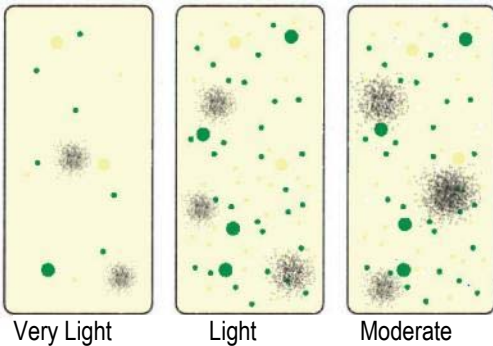
ORGANISM		SAB		
ORGANISM	PHYSIOLOGY ◆ Precision Test Strip Available	GROWTH	COLONY	IMAGE
<i>Penicillium chrysogenum (notatum)</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Ascomycete 	++	<ul style="list-style-type: none"> □ Granular, velvet-like/powdery, flat • Initially white, then various shades of green blue-green or yellow-green pigment • 2-5++cm 	
<i>Penicillium roqueforti</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Ascomycete 	++	<ul style="list-style-type: none"> • Granular, dull green in color arachnoid (with many spider-web-like fibers) colony margins) • 2-5++cm 	
<i>Penicillium digittum</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Ascomycete 	+++	<ul style="list-style-type: none"> • Woolly, Fluffy (like cotton candy) • White at first, later becoming green with age • 2-5++cm 	
<i>Rhizopus spp.</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Zygomycete 	+++	<ul style="list-style-type: none"> • Cottony • White to blackish grey (black fruiting bodies) • 5++mm (rapidly spreading) 	

ORGANISM		SAB		
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<i>Saccharomyces cerevisiae</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Ascomycete 	+++	<ul style="list-style-type: none"> • Creamy white to tannish-cream • Circular, entire, raised to convex, w/ glistening surface • 1-4mm 	
<i>Stachybotrys spp.</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Ascomycete 	++	<ul style="list-style-type: none"> • Dark gray • Powdery • white, pink, orange, black pigment • 2-5+++cm 	
<i>Torula spp.</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Ascomycete 	+	<ul style="list-style-type: none"> • Arrowhead / Circle or Heart shape • Grey, white to brown pigment with age • 2-5+++cm 	IMAGE PENDING
<i>Trichoderma spp.</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Ascomycete 	++	<ul style="list-style-type: none"> • Cottony • White / later scattered green or yellow-green patches (rings) • 2-5+++cm 	

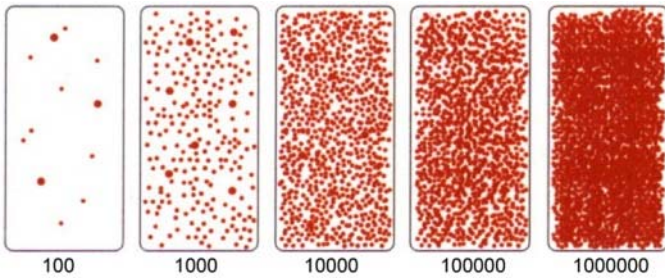
ORGANISM		SAB		
ORGANISM	PHYSIOLOGY ◆ Precision Test Strip Available	GROWTH	COLONY	IMAGE
<i>Trichophyton spp.</i>	<ul style="list-style-type: none"> • Catalase (+) ◆ • Ascomycete 	+	<ul style="list-style-type: none"> • Woolly with indented borders • White to brownish-tan pigment • 2-5++cm 	

ENUMERATION

SAB



TVC/TCC



Approximate Colony Count per 100 mL

**TVC/TCC
(Total Viable Count/
Total Colony Counts)**

Colony Counts < 1000
Count colonies
TVC/TCC Count = Count x 2.5

Colony Counts > 1000
Use chart
TVC/TCC Count = Count x 2.5

(Based on a 40 mL sample)

For *in vitro* diagnostic use only. This product should be used only by adequately trained personnel with knowledge of microbiological techniques in the laboratory.
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Example:
Inoculated NUT/TTC
paddle showing
approximately 1000
CFU/100 mL.

DISPOSAL

Twist to remove paddle from vial. Fill vial to 40 mL fill line with 1:9 dilution of household bleach (5.25% sodium hypochlorite). Replace paddle in vial. Allow 15 minute contact time. Remove paddle. Discard bleach solution. Replace paddle in vial and dispose. Alternatively, loosen cap and microwave for 30 seconds, autoclave, or incinerate.

GLOSSARY:

CVEG	Convex, Entire, Glossy
FED	Full, Entire, Dull
Catalase	Cat (+) contains catalase enzymes that degrade cellular H ₂ O ₂ .
Lactose	Lac (+) bacteria can ferment available lactose in the medium producing an acid which lowers the pH. Lac (-) are non-fermenting.
Indole	Biochemical test to determine the ability of an organism to split indole from the amino acid tryptophan. <i>P. vulgaris</i> is indole (+) while <i>P. mirabilis</i> is indole (-).
Oxidase	OX (+) contains cytochrome c oxidase. In contact with an indicator turns dark blue if OX (+); colorless if OX(-).
Urease	UR (+) presence of enzyme urease which hydrolyzes urea into CO ₂ & NH ₄ .
β-D-Glucuronidase	Glu (+) Found in 97% of <i>E. coli</i> strains. The presence of <i>E. coli</i> is determined when both β-D-Glucuronidase and Indole are (+), and the organism is Gram (-).
Gram	Gram reaction