BCP MILK SOLIDS GLUCOSE AGAR

INTENDED USE
Remel BCP Milk Solids Glucose Agar is a solid medium recommended for use in qualitative procedures for differentiation of *Trichophyton mentagrophytes* and *Trichophyton rubrum*.

SUMMARY AND EXPLANATION
BCP (brom cresol purple) Milk Solids Glucose Agar was introduced by Fischer and Kane for identification of dermatophytes without inhibiting the growth of bacterial and yeast contaminants.[1] *Trichophyton mentagrophytes* produced growth with a pronounced alkaline pH change at 7 days on BCP Milk Solids Glucose Agar, while *Trichophyton rubrum* showed restricted growth and no pH change within the same time period. In 1988, Summerbell et al. assessed the reliability of BCP Milk Solids Glucose Agar and found it to be highly efficacious for differentiating *T. rubrum* and *T. mentagrophytes*.[2] When used in combination with certain other media (i.e., urea agar, cornmeal glucose agar, etc.), BCP Milk Solids Glucose Agar can be used to identify most dermatophyte isolates encountered in the clinical microbiology laboratory within 7-10 days.[3]

PRINCIPLE
Dermatophytes raise the pH of complex media by breaking down proteins to produce alkaline compounds. In certain species this proteolytic action on milk casein is repressed when the medium also contains glucose as a carbon source. The ammonifying action of *T. rubrum* and most *Microsporum* spp. is strongly delayed on BCP Milk Solids Glucose Agar. On the other hand, *T. mentagrophytes* and certain other dermatophytes (i.e., *Epidermophyton floccosum*, *Trichophyton tonsurans*, etc.) rapidly ammonify milk glucose medium, producing a dark purple-blue color change in the agar. BCP Milk Solids Glucose Agar contains no antimicrobial agents which allows for growth of bacteria and yeast, many of which produce organic acid from the metabolism of glucose and cause a color change in the medium to yellow.

REAGENTS (CLASSICAL FORMULA)*
Skim Milk	40.0	g	Brom Cresol Purple	0.016	g
Dextrose	20.0	g	Agar	15.0	g

pH 7.8 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PROCEDURE
1. Inoculate BCP Milk Solids Glucose Agar near the middle of the slant with a small fragment of the test isolate colony.
2. Incubate the tube in ambient air at 25-30°C for up to 7 days.
3. Observe for growth and color change in the medium.

INTERPRETATION
Negative Reaction -	Color of medium is unchanged, growth is inhibited
Positive Reaction -	Color of medium is blue-purple to purple (alkaline), growth
Bacteria or yeast -	Color of medium is yellow (acid)

QUALITY CONTROL
All lot numbers of BCP Milk Solids Glucose Agar have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL	INCUBATION	RESULTS
Trichophyton mentagrophytes ATCC® 9533	Ambient, up to 7 days @ 25-30°C	Growth, dark purple-blue color
Trichophyton rubrum ATCC® 38484	Ambient, up to 7 days @ 25-30°C	Inhibition, partial to complete, no color change

LIMITATIONS
1. BCP Milk Solids Glucose Agar is only part of the overall scheme for the identification of dermatophytes.[3] Other testing may be required for definitive identification; consult appropriate references for further instructions.[4]

BIBLIOGRAPHY

1. Fischer, J.B. and J. Kane. 1971. Mycopathol. Mycol. Appl. 43:169-180.
2. Summerbell, R.C., S.A. Rosenthal, and J. Kane. 1988. J. Clin. Microbiol. 26:2279-2282.
3. Garcia, L.S. 2010. Clinical Microbiology Procedures Handbook. 3rd ed. ASM Press, Washington, D.C.
4. Larone, D.H. 2005. Medically Important Fungi, A Guide to Identification. 5th ed. ASM Press, Washington, D.C.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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