

Instructions for Use

LACTOPHENOL COTTON BLUE STAIN

Cat. no. Z68	Lactophenol Cotton Blue Stain	15ml
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INTENDED USE

Hardy Diagnostics Lactophenol Cotton Blue Stain is recommended for mounting and staining yeast and molds.

SUMMARY

Lactophenol Cotton Blue Stain is formulated with lactophenol, which serves as a mounting fluid, and cotton blue. Organisms suspended in the stain are killed due to the presence of phenol. The high concentration of the phenol deactivates lytic cellular enzymes thus the cells do not lyse. Cotton blue is an acid dye that stains the chitin present in the cell walls of fungi.

REAGENT FORMULA

Ingredients per liter:*

Phenol	200.0gm
Cotton Blue	0.5gm
Glycerol	400.0ml
Lactic Acid	200.0ml
Deionized Water	200.0ml

* Adjusted and/or supplemented as required to meet performance criteria.

STORAGE AND SHELF LIFE

Upon receipt store at 2-30°C. Product should not be used if there are any signs of contamination, deterioration, or if the expiration date has passed. Product is light sensitive; protect from light.

The expiration date on the product label applies to the product in its intact packaging when stored as directed. The product may be used and tested up to the expiration date on the product label and incubated for the recommended incubation times as stated below.

Refer to the document "[Storage](#)" for more information.

PRECAUTIONS

This product may contain components of animal origin. Certified knowledge of the origin and/or sanitary state of the

animals does not guarantee the absence of transmissible pathogenic agents. Therefore, it is recommended that these products be treated as potentially infectious, and handle observing the usual Universal Precautions for blood. Do not ingest, inhale, or allow to come into contact with skin.

This product is for *in vitro* diagnostic use only. It is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions." Refer to the document "[Guidelines for Isolation Precautions](#)" from the Centers for Disease Control and Prevention.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M29: *Protection of Laboratory Workers from Occupationally Acquired Infections*.

Sterilize all biohazard waste before disposal.

Refer to the document "[Precautions When Using Media](#)" for more information.

Warning: This product causes irritation, may cause eye burns and is harmful if inhaled. Avoid contact with skin. Use with adequate ventilation. Wash thoroughly after handling.

PROCEDURE

Specimen Collection: This product is intended to be used primarily with pure cultures, although certain specimens may be examined directly using this stain. Consult appropriate references for further information concerning the use of Lactophenol Cotton Blue Stain with specimens.^(5,7,8)

Method of Use: Place a drop of Lactophenol Cotton Blue Stain in the center of a clean slide. Remove a fragment of the fungus colony 2-3mm from the colony edge using an inoculating or teasing needle or MycoMount™ adhesive strips (Cat. no. MM40). Place the fragment in the drop of stain and tease gently. Apply a coverslip. Do not push down or tap the cover slip as this may dislodge the conidia from the conidiophores. Examine the preparation under low and high, dry magnification for the presence of characteristic mycelia and fruiting structures. Consult appropriate references for diagnostic features of fungi isolated in clinical and non-clinical specimens.⁽¹⁻⁶⁾

LIMITATIONS

It is recommended that biochemical, immunological, molecular, or mass spectrometry testing be performed on colonies from pure culture for complete identification of bacteria and/or fungi.

Lactophenol Cotton Blue Stain is useful in the recognition and presumptive identification of fungi. Additional characteristics including colony morphology and biochemical tests should be used where appropriate for final identification. For further information, consult the appropriate references.⁽¹⁻⁶⁾

Refer to the document "[Limitations of Procedures and Warranty](#)" for more information.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as loops, other culture media, swabs, applicator sticks, incinerators, and incubators, etc., as well as serological and biochemical reagents, are not provided.

QUALITY CONTROL

Hardy Diagnostics tests each lot of commercially manufactured media using appropriate quality control microorganisms and quality specifications as outlined on the Certificate of Analysis (CofA) and the CLSI document M22-A3 *Quality Assurance for Commercially Prepared Microbiological Culture Media*. The following microorganisms are routinely used for testing at Hardy Diagnostics:



Test Organisms	Results
<i>Aspergillus brasiliensis</i> formerly <i>A. niger</i> ATCC® 16404	Delicate blue hyphae and fruiting structures with a pale blue background.
<i>Trichophyton mentagrophytes</i> ATCC® 9533	Delicate blue hyphae and fruiting structures with a pale blue background.

USER QUALITY CONTROL

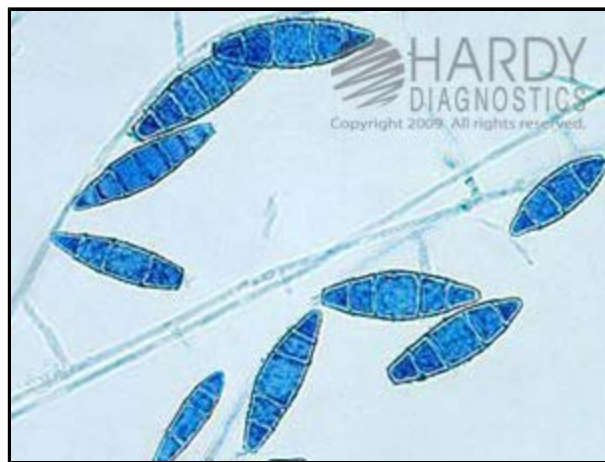
It is recommended that each new lot or shipment of reagent be tested with known positive and negative controls.^(3,9)

PHYSICAL APPEARANCE

Lactophenol Cotton Blue Stain should appear clear, and blue in color.



Lactophenol Cotton Blue Stain (Cat. no. Z68).



Microscopic image of *Microsporium gypseum* stained with Lactophenol Cotton Blue Stain (Cat. no. Z68).

REFERENCES

1. Jorgensen., et al. *Manual of Clinical Microbiology*, American Society for Microbiology, Washington, D.C.
2. Tille, P., et al. *Bailey and Scott's Diagnostic Microbiology*, C.V. Mosby Company, St. Louis, MO.
3. Centers for Medicare and Medicaid, *Appendix C, Survey Procedures and Interpretive Guidelines for Laboratories and Laboratory Services*. Subpart K - Quality System for Non-Waived Testing. 493;1200-1265.
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4. *Cumitech 11: Practical Methods for Culture and Identification of Fungi in the Clinical Microbiology Laboratory*. 1980. American Society for Microbiology, Washington, D.C.
5. Isenberg, H.D. *Clinical Microbiology Procedures Handbook*, Vol. I, II & III. American Society for Microbiology, Washington, D.C.
6. Koneman, E.W., et al. *Color Atlas and Textbook of Diagnostic Microbiology*, J.B. Lippincott Company, Philadelphia, PA.
7. Larone, D.H. *Medically Important Fungi: A Guide to Identification*, American Society for Microbiology, Washington, D.C.

8. Kwon-Chung, K.J. and J.E. Bennett. 1992. *Medical Mycology*. Lea and Febiger, Malvern, PA.

9. Commission on Laboratory Accreditation. 2004. *Laboratory Accreditation Program Microbiology Checklist*.
College of American Pathologists.

www.cap.org/apps/docs/laboratory_accreditation/checklists/microbiology_sept2004.pdf.

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