



Schaeffer & Fulton's Spore Stains - Kit

K006

Intended use

Schaeffer & Fulton's Spore Stain-Kit is used for staining bacterial spores.

Kit Contents

S028 Schaeffer & Fulton's Spore Stain A	100ml
S029 Schaeffer & Fulton's Spore Stain B	100ml

Composition**

Ingredients

Schaeffer & Fulton's Spore Stain A (S028)	-
Malachite green	5.0 g
Distilled water	100.0 ml
Schaeffer & Fulton's Spore Stain B (S029)	-
Safranin O	0.5 g
Distilled water	100.0 ml

**Formula adjusted, standardized to suit performance parameters

Directions

1. Prepare a smear of the culture. Air dry it and fix with gentle heat.
2. Flood the entire slide, with aqueous malachite green/ Schaeffer and Fulton's Spore Stain A (S028).
3. Steam for 3-6 minutes, and rinse under running tap water.
4. Counterstain with 0.5% aqueous safranin/Schaeffer and Fulton's Spore Stain B (S029) for 30 seconds.
5. Wash with water, dry and observe under oil immersion lens.

Principle And Interpretation

A spore is a dormant form of the bacterium that allows it to survive in drastic environmental conditions. Spores have a tough outer covering made of the protein keratin and are resistant to heat and chemicals. The keratin also resists staining, so extreme measures must be taken to stain the spore. In the Schaeffer-Fulton's method, a primary stain- malachite green is forced into the spore by steaming the bacterial emulsion. Malachite green is water soluble and has a low affinity for cellular material, so vegetative cells may be decolorized with water. Vegetative cells are then counterstained with safranin. Spores may be located in the middle of the cell, at the end of the cell, or between the end and middle of the cell. Spore shape may also be of diagnostic use. Spores may be spherical or elliptical. Members of the genus *Corynebacterium* may exhibit club-shaped swellings that might be confused with spores. Spore staining distinguishes between true spores and these structures.

Type of specimen

Any isolated colony on primary or subculture plates can be isolated from following specimens. Clinical specimen: Blood, urine, CSF, pus, wounds, lesions, body tissues, sputum etc. From environment: Air, water, soil, sludge, waste water, food, dairy samples etc.

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines.

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines.

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.

Generally the smear is made in laboratory; however, when there is a concern that transport will be delayed or that the preservation for culture will alter the specimen, prepare smear and submit slides to the laboratory.

Warning and Precautions

In Vitro diagnostic use only. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/ eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. If over heat fixed, the safranin will replace the malachite green in the spores as well as in vegetative cells.
2. Safranin is easily washed from vegetative cells therefore washing should be minimal.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Quality Control

- **Microscopic examination** : Spore staining was carried out and staining characteristic of the organism is observed under microscope by using oil immersion lens.
- **Results** : Spores: Green
Vegetative cells: Red

Storage and Shelf Life

Store between 10-30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques.

Reference

1. Downes F. P. and Ito K. (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
2. Rice E.W., Baird, R.B., Eaton A. D., Clesceri L. S. (Eds.), 2012, Standard Methods for the Examination of Water and Wastewater, 22nd ed., APHA, Washington, D.C.
3. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
6. George Clark et al, 1981, 4th ed., Staining procedures: 17(390)
7. Godkar B. P., 1996, Textbook of medical laboratory technology: 23(317).



Storage temperature



Do not use if package is damaged



In vitro diagnostic medical device



CE Marking



HiMedia Laboratories Pvt Limited
C-40,21/Y, MIDC, Wagle Ind Area,
Thane(W)-400604,Maharashtra,India



CEpartner4U,ESDOORNLAAN 13,3951
DB MAARN,The Netherlands,
www.cepartner4u.eu

Revision : 04/2024

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.