



Lead Acetate Paper Strips

DD034

Lead Acetate Paper Strips are used for detection of hydrogen sulphide production by microorganisms.

Directions

Inoculate Peptone Water (M028) with the test organism. Insert a Lead acetate paper strip between the plug and inner wall of tube, above the inoculated medium and incubate at 35-37°C for 18-24 hours.

Principle And Interpretation

The lead acetate procedure is more sensitive than any other method for detecting H₂S production. It detects even traces of H₂S. H₂S is a colourless gas which on contact with lead acetate produces lead sulphide, a black precipitate, indicated by a visible black coloured reaction on the Lead acetate paper strip (2).

Lead Acetate Paper strips are sterile filter paper strips impregnated with lead acetate reagent. Certain organisms are capable of enzymatically liberating sulphur from sulphur containing aminoacids or inorganic sulphur compounds. Hydrogen sulphide can be produced in small amounts from sulphur containing amino acids like Cysteine by a large number of bacteria in a carbohydrate media (1). This test is used mainly for identification and differentiation of organisms like *Salmonella* species.

Quality Control

Appearance

Filter paper strips of 70 mm x 5 mm.

Cultural Response

Hydrogen sulphide production by various test organisms is observed after an incubation at 35-37°C for 18-24 hours, by inserting Lead Acetate Paper Strips between the plug and inner wall of tube, above the inoculated Peptone Water (M028).

Cultural Response

Organism	Growth	H ₂ S production
<i>Escherichia coli</i> ATCC 25922	luxuriant	negative reaction, no blackening.
<i>Salmonella Enteritidis</i> ATCC 13076	luxuriant	positive reaction, blackening of the lower portion of the strip.
<i>Salmonella Typhimurium</i> ATCC 14028	luxuriant	positive reaction, blackening of the lower portion of the strip.

Storage and Shelf Life

Store between 2-8°C. Use before expiry date on the label.

Reference

1. Mackie and MaCartney, 1996, Practical Medical Microbiology, 14th ed., Vol. 2, Collee J.G., Fraser A. G., Marmion B. P., Simmons A. (Eds.), Churchill Livingstone, Edinburgh.

2. MacFaddin JF, (Ed). 2000. Biochemical Tests for Identification of Medical Bacteria. 3rd ed. Philadelphia: Lippincott. Williams & Wilkins.

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