DMACA Reagent

R035

Intended Use

DMACA Reagent is used as a histological dye to detect indole from Tryptophan.

Composition**

Ingredients

p-Dimethylaminocinnamaldehyde	1.000 gm
Hydrochloric acid (concentrated)	1.000 ml
Distilled water	99.000 ml

**Formula adjusted, standardized to suit performance parameters

Directions

With a platinum wire loop, plastic loop or glass rod spread suspected colony from HiCrome UTI HiVeg Agar (MV1353) or HiCrome UTI HiVeg Agar, Modified (MV1418) plate on filter paper dipped in DMACA Reagent (R035). Observe for appearance of bluish-purple colour within 10-30 seconds.

Principle And Interpretation

DMACA reagent is used to determine the ability of an organism to split indole from the tryptophan molecule. In the presence of oxygen, some bacteria are able to split tryptophan into indole and alpha-aminopropionic acid. The presence of indole can be detected by the addition of DMACA (p-Dimethylaminocinnamaldehyde) reagent indicated by formation of bluish-purple colour.

Type of specimen

The specimen is any isolated colony on primary or su culture plates

Specimen Collection and Handling

or clinical samples follow appropriate techni ues for handling specimens as per esta lished guidelines

or food and dairy samples follow appropriate techni ues for sample collection and processing as per guidelines 3 5 3 or watersamples follow appropriate techni ues for sample collection processing as per guidelines and local standards

After use contaminated materials must e sterili ed y autocla ing efore discarding

Warning and Precautions

In itro diagnostic use only Read the la el efore opening the container Wear protecti e glo es protecti clothing eye protection face protection ollow good micro iological la practices while handling specimens and cultures Standard

Limitations

1. The tube test is a more sensitive method of detecting indole than the spot test.
2. When performing a spot test, Kovacs Indole Reagent may be used as a substitute for the spot test reagent. However, Kovacs Indole Reagent, when used as the spot test reagent, is less sensitive in detecting indole than the Indole Spot Reagent (DMACA).
3. Media containing glucose should not be used for indole testing due to the formation of acid end products which have been shown to reduce indole production.
4. Indole-positive colonies have been reported to cause adjacent indole-negative colonies to appear false-positive due to diffusion of indole into the media. To avoid false-positives, select colonies of different morphologies that are separated by at least 5mm for indole testing.

Quality Control

Appearance

Yellow to brown coloured solution.

Clarity

Clear to slightly hazy solution.

Cultural Response

Biochemical identification is carried out by transferring suspected colony from HiCrome UTI Agar (M1353) or HiCrome UTI Agar, Modified (M1418) plate on filter paper and adding 1-2 drops of DMACA Reagent (R035).

Organism	Growth	DMACA
Escherichia coli ATCC 25922	Luxuriant	Positive (blue-purple colouration around colony)
Pseudomonas aeruginosa ATCC 27853	Luxuriant	Negative(No colour change around colony)

Storage and Shelf Life

Store below 30°C in tightly closed container and away from bright light. Use before expiry date on label.

Reference

1.MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Williams and Wilkins, Baltimore.

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3.Li, Y. G.; Tanner, G.; Larkin, P. (1996). "TheDMACA-HCl Protocol and the Threshold Proanthocyanidin Content for Bloat Safety in Forage Legumes". Journal of the Science of Food and Agriculture 70: 89–101.

4. A new colourimetric assay for flavonoids in pilsner beers. Jan A. Delcour and Didier Janssens de Varebeke, Journal of the Institute of Brewing, January–February 1985, Volume 91, Issue 1, pages 37–40.

5. Meudt, W. J.; Gaines, T. P. (1967). "Studies on the Oxidation of Indole-3-Acetic Acid by Peroxidase Enzymes. I. Colorimetric Determination of Indole-3-Acetic Acid Oxidation Products".Plant Physiology 42 (10): 1395–9.

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