Technical Data sheet

# Urichrome agar plates p90/uri - 20

## **intended use**

Urichrome Agar is used for isolation and differentiation of urinary tract pathogens.

## **Types of Sample**

* Clinical (Urine Sample)

## **Principle**

Urichrome Agar provides a reliable and rapid tool for the presumptive identification of urinary pathogens. The formulations contain two Chromogenic substrates which are cleaved by the β-Glucuronidase and ß-glucosidase enzymes produced by E. coli, Enterococcus species and coliforms. These specific enzyme reactions cleave the Chromogens giving a range of diagnostic colours. One of the Chromogenic substrates is cleaved by ß-glucosidase possessed by Enterococci and coliforms resulting in formation of blue colonies. E. coli produces pink to burgundy colonies due to the enzyme β-Glucuronidase that cleaves the other Chromogenic substrate. Further confirmation of E. coli can be done by performing the indole test. Tryptophan deaminase activity produces a brown halo around colonies of Proteus, Morganella and Providencia species. Most other organisms exhibit their natural pigmentation.

## **Ingredients**

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| --- | --- |
| Approximate Formula Per Liter | |
| Peptones And Media Bases | 21.0 g |
| Agar | 15.0 g |
| Chromogenic mixture | Added Quantity |
| Final pH 7.2 ± 0.2 at 25℃ | |

## **physical parameters of prepared plates**

* Appearance: 90 mm petri plates with a smooth surface and absence of any particles, cracks, or bubbles.
* Colour: Light Amber Colour
* Clarity: Slightly Opalescent
* Volume: 20-22 ml

## **Sterility Check**

Sterility of the plates is checked by incubating the plates at 35-37℃ for 3 days.

## **Microbial Performance data**

Culture characteristics observed after inoculating 50-100 CFU and incubate at 35-37 ℃ for 24-48 hours. Examine plates after 24 to 48 hours for amount of growth and colony size and colony colour. If material is being cultured directly from a swab, roll the swab over on the agar surface and streak for isolation.

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| --- | --- | --- | --- |
| Test Strains | ATCC No. | Growth | Colour of the Colony |
| *Escherichia coli* | ATCC 25922 | Good | Dark Pink to Burgundy |
| *Klebsiella pneumonia* | ATCC 13883 | Good | Metallic Blue, Mucoid |
| *Enterococcus faecalis* | ATCC 29212 | Good | Blue, pinpointed Colony |
| *Proteus mirabilis* | ATCC 25933 | Good | Pale brown with swarming |
| *Staphylococcus aureus* | ATCC 25923 | Good | Cream |
| *Pseudomonas aeruginosa* | ATCC 27853 | Good | Fluorescent Green Colour |

## **limitations & complementary tests**

* For samples follow appropriate techniques for handling specimens as per established guidelines.
* Most of *Serratia plymutica* will grow mauve.
* Some *S. saprophyticus* strains can grow in cream-colored colonies. Since it is an enzyme-substrate based reaction, the intensity of colour may vary with isolates.
* The final identification must be confirmed by biochemical tests, immunological tests or by mass spectrophotometry. They can be done directly from the suspicious colonies observed on the medium.

|  |  |  |
| --- | --- | --- |
| Colonies | Suggested Tests | Possible Identification |
| Dark Pink to Burgundy | Indole Test: The medium allows indole test for confirmation of E. coli | Indole (+) = E. coli |
| Brown halo | TDA test (with FeCl3 Test) for confirmation of Proteus. | * Tryptophan deaminase activity (TDA) indicates a microorganism of the PMP group (Proteus-Providencia-Morganella). * Proteus mirabilis positive reaction, development of brown colouration, Indole Negative * Proteus vulgaris can be identified by a positive spot indole test |
| Blue, small Gram (+), cocci appearance | PYR test (or serological test or hemolysis) | PYR (+) = Enterococcus PYR (-) =Streptococcus B |

## **precautions**

* For in-Vitro diagnostic use. Read the label details and storage before opening the pack.
* Wear protective gloves / protective clothing / eye protection / face protection.
* Follow good microbiological lab practices while handling specimens and culture.

## **Pack Size and packaging**

20 plates per kit packed with gamma irradiated packing material.

## **storage & shelf life**

* Store at 10 -15 ℃.
* Use before the expiry date mentioned on the label.
* Product is temperature sensitive; protect from direct sunlight, excessive heat, moisture, and freezing.

## **disposal**

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Materials that have come in contact with infectious / clinical samples must be decontaminated and disposed of in accordance with current laboratory techniques and regulations.

## **Reference**

* Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone