Rapid UTI Diagnostic Slants

Intended use

Chromogenic medium (low ionic) slant for detection of organisms causing Urinary Tract Infection.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone</td>
<td>18.000</td>
</tr>
<tr>
<td>Tryptone</td>
<td>4.000</td>
</tr>
<tr>
<td>HM Peptone B#</td>
<td>6.000</td>
</tr>
<tr>
<td>Chromogenic mixture</td>
<td>12.440</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.2±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters
#-Equivalent to Beef extract

Directions

Streak the test inoculum aseptically into the slant and incubate at appropriate conditions. Incubate the slants at 30-35°C for 18-24 hours.

Principle And Interpretation

HiCrome™ UTI Agar, Modified is formulated on the basis of work carried out by Pezzlo (7), Wilkie et al (11), Friedman et al (2), Murray et al (6), Soriano and Ponte (9 and Merlino et al (5). These media is the modification of HiCrome™ UTI Agar (M1353), which can be used in place of MacConkey Agar for isolation and confirmation of various microorganisms. It facilitates and expedites the identification of some gram-negative bacteria and some gram-positive bacteria on the basis of different contrasted colony colours produced by reactions of genus or species specific enzymes with two chromogenic substrates.

Enzymes produced by Enterococcus species, Escherichia coli and coliforms cleave the chromogenic substrates incorporated in the medium. Presence of rich source of phenylalanine and tryptophan from peptone and tryptone provides an indication of tryptophan deaminase activity, revealed with TDA Reagent (R036) indicating the presence of Proteus species, Morganella species and Providencia species, which appear brown. One chromogenic substrate is cleaved by ß-glucosidase possessed by Enterococci resulting in formation of blue colonies. E.coli produce purple-magenta colonies due to the enzyme ß-D-galactosidase which cleaves the other chromogenic substrate. Further confirmation of E.coli can be done by performing indole test using DMACA Reagent (R035). Also, some strains of Enterobacter cloacae lacking ß-glucosidase show pink-colonies indistinguishable from E.coli. The DMACA reagent for indole test (should be performed on filter paper) distinguishes between E.coli and Enterobacter, and also between Proteus mirabilis and other species. Coliforms produce purple coloured colonies due to cleavage of both the chromogenic substrates Peptone, HM Peptone B and tryptone provides nitrogenous, carbonaceous compounds and other essential growth nutrients.

Type of specimen

Clinical samples: urine, faeces, Food samples, Water samples.

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,6).
For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (8,10).
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (1).
After use, contaminated materials must be sterilized by autoclaving before discarding.
**Warning and Precautions**

In Vitro diagnostic use. 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. Since it is an enzyme-substrate based reaction, the intensity of colour may vary with isolates.

**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**

**Appearance**
Sterile HiCrome™ UTI agar slant in glass tube.

**Colour of medium**
Light amber coloured medium

**Quantity of medium**
8ml of medium in glass tube

**Reaction**
6.60-7.00

**Sterility Test**
Passes release criteria

**Cultural Response**
Cultural characteristics observed after an incubation at 35-37°C for 24 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Colour of Colony</th>
<th>TDA (add 1-2 drops of TDA reagent)</th>
<th>DMACA (transfer colony on filter paper dipped in DMACA Reagent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escherichia coli ATCC 25922</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>Purple to magenta</td>
<td>negative reaction</td>
<td>positive reaction, formation of blue purple colour around growth</td>
</tr>
<tr>
<td>Enterococcus faecalis ATCC 292212 (00087*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>blue-green (small)</td>
<td>negative reaction</td>
<td>negative reaction</td>
</tr>
<tr>
<td>Klebsiella pneumoniae ATCC 13883 (00097*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>blue to purple, mucoid</td>
<td>negative reaction</td>
<td>negative reaction</td>
</tr>
<tr>
<td>Proteus mirabilis ATCC 12453</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>light brown</td>
<td>positive reaction, development of brown colouration</td>
<td>negative reaction</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa ATCC 27853 (00025*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>colourless (greenish pigment may be observed)</td>
<td>negative reaction</td>
<td>negative reaction</td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>golden yellow</td>
<td>negative reaction</td>
<td>negative reaction</td>
</tr>
</tbody>
</table>

Key: *Corresponding WDCM numbers.
**Storage and Shelf Life**
On receipt store between 2-8°C Use before expiry date on the label. Product performance is best if used within stated expiry period.

**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 (3,4).

**Reference**

Revision : 00/ 2019

In vitro diagnostic medical device

CE Marking

Storage temperature

Do not use if package is damaged

HiMedia Laboratories Pvt. Limited,
23 Vadhani Industrial Estate,
LBS Marg,Mumbai-86,MS,India

CE Partner 4U ,Esdoornalaan 13, 3951
DB Maarn The Netherlands,
www.cepartner 4u.eu
Disclaimer:

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