

Technical Information

Tryptone Water

Product Code: DM 1463I

Application: Tryptone Water is used for the detection of indole production by coliforms.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	20.000
Sodium chloride	5.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Tryptone Water is recommended by APHA ⁽¹⁾ and ISO Committee ⁽²⁾ for detection of indole production by coliforms, which is a key feature in differentiation of bacteria. A slight modification of Tryptone Water (DM1463I) is recommended by ISO committee ⁽³⁾ for the same purpose. This test demonstrates the ability of certain bacteria to decompose the amino acid tryptophan to indole which accumulates in the medium ⁽⁴⁾.

Because of its high tryptophan content. Casein enzymic hydrolysate is a good substrate for indole production. Certain organisms breakdown the amino acid tryptophan enzymatically that mediate the production of indole by hydrolytic activity ⁽⁵⁾. The indole produced can be detected by either Kovacs or Ehrlichs reagent ⁽⁶⁾. Indole combines with the aldehyde present in the above reagent to give red colour in the alcoholic layer. The alcohol layer extracts and concentrates the red colour complex.

Tryptone Water is used along with Brilliant Green Bile Broth 2% (DM1121) to determine the most probable number (MPN) of E. coli in food sample. Growth and gas production in DM1121 and indole production in Tryptone Water following incubation of both media at 44 ± 1°C is used as the basis for the presumptive E. coli test. For determination of indole, inoculate the medium with inoculum of an 18-24 hours pure culture. Incubate the tubes at 35 ± 2°C for 18-24 hours. Add 0.5 ml of kovac's Indole reagent (O25046) directly to the tube and agitate. Allow the tubes to stand for 5-10 minutes. Formation of red ring at the top of the tube indicates indole production.

Indole testing is recommended as an aid in the differentiation of microorganisms based on indole production. For complete identification of the organisms, further biochemical confirmation is necessary.

Methodology

Dissolve 25 grams of powder media in 1000 ml distilled water. Shake well & heat if necessary to dissolve the medium completely. Dispense into tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Yellow coloured clear solution without any precipitate

Reaction

Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH Range:-

7.30-7.70



Dehydrated Culture Media
Bases / Media Supplements

Cultural Response/Characteristics

DM 1463I: Cultural characteristics observed after an incubation at 35-37°C for 24 hours. Add 0.2-0.3ml kovac's indole reagent (O25046) to each tube after incubation.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Escherichia coli</i> ATCC 25922	50-100	Luxuriant	positive reaction, red ring at the interface of the medium
<i>Enterobacter aerogenes</i> ATCC 13048	50-100	Luxuriant	negative reaction, no colour development/ cloudy ring

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8⁰ in sealable plastic bags for 2-5 days.

Further Reading

1. Greenberg A. E., Clesceri L. S. and Eaton A. D., (Eds.), 1998, Standard Methods for the Examination of Water and Wastewater, 20th Ed., APHA, Washington, D.C.
2. International Organization for Standardization (ISO), 1993, Draft ISO/DIS 9308-1.
3. International Organization for Standardization (ISO), 1990, Draft ISO/DIS 7251:1993.
4. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
5. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Williams and Wilkins, Baltimore.
6. Finegold S. M. and Baron E. J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th Ed., The C.V. Mosby Co., St. Louis.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House 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 diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- 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. Do not use the products if it fails to meet specifications for identity and performance parameters.

