

Tryptone broth (tryptone water)

Tryptone Broth is used for the detection of indole production by coliforms.

REF: BS.1/TW01.100.0100
REF: BS.1/TW01.500.0500

100 Gram
500 Gram

REF: BS.1/TW01.250.0250

250 Gram

CLINICAL SIGNIFICANCE

Tryptone Water is recommended by APHA (1) for detection of indole production by coliforms, which is a key feature in differentiation of bacteria. A slight modification of Tryptone Water is recommended by ISO committee (2) 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

METHOD PRINCIPLE

Tryptone is a good substrate for indole production because of its high tryptophan content. Certain organisms breakdown the amino acid tryptophan with the help of enzymes that mediate the production of indole by hydrolytic activity (4). The indole produced can be detected by either Kovacs or Ehrlichs reagent (5). 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 in conjunction with Brilliant Green Bile Broth 2% to determine the most probable number (MPN) of E.coli in food sample. Growth and gas production in M121 and indole production in Tryptone Water following incubation of both media at $44 \pm 1^\circ\text{C}$ 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 $35 \pm 2^\circ\text{C}$ for 18-24 hours. Add 0.5 ml of indole reagent 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.

MEDIA COMPOSITION

Item	Formula per liter of medium
- Tryptone	5.000 gm.
- Sodium chloride	4.000 gm.

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
S56: dispose of this material and its container at hazardous or special waste collection point.
S57: use appropriate container to avoid environmental contamination.
S61: avoid release in environment.

For further information, refer to the tryptone broth material safety data sheet.

STORAGE AND STABILITY

BioScien Tryptone broth dehydrated media are stable until expiration date stated on label when properly stored 10-30°C. The prepared medium should be stored at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Final pH 7.5 ± 0.2 at 25°C

MEDIA PREPARATION

- Suspend 15.0 grams in 1000 ml purified/ distilled water.
- Adjust pH to 7.5 ± 0.2 at 25°C
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks as desired.
- Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes.

Deterioration

The color of **BioScien** Tryptone broth is Cream to yellow homogeneous free flowing powder. If there are any physical changes, discard the medium.

The hydrated medium is Cream to yellow coloured clear solution without any precipitate, media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

Type of specimen

Clinical samples

EQUIPMENT REQUIRED NOT PROVIDED








- Sterile cups
- Sterile test tubes
- Incubator

PERFORMANCE CHARACTERISTICS

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Fits your perfection

Test Organisms	Growth	Indole test
<i>Escherichia coli</i> ATCC 25922	Luxuriant	positive reaction, red ring at the interface of the medium
<i>Klebsiella aerogenes</i> ATCC 13048	Luxuriant	negative reaction, no colour development / cloudy ring
<i>Klebsiella pneumoniae</i> ATCC 13883	Luxuriant	negative reaction, no colour development / cloudy ring

SYMBOLS IN PRODUCT LABELLING		
IVD	For in-vitro diagnostic use	 Number of <n> test in the pack
LOT	Batch Code/Lot number	 Caution
REF	Catalogue Number	 Do not use if package is damaged
	Temperature Limitation	 Consult Instruction for use
	Expiration Date	
	Manufactured by	

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

REFERENCES

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
2. International Organization for Standardization (ISO), 1990, Draft ISO/DIS 7251:1993.
3. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
4. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Williams and Wilkins, Baltimore.
5. Finegold S. M. and Baron E. J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th Ed., The C.V. Mosby Co., St. Louis
6. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
7. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.