

## TRYPTOPHAN CULTURE BROTH ISO 9308-1

**CAT Nº: 1237**

For the detection of *Escherichia coli* and other coliforms by indole production

### FORMULA IN g/l

Tryptone	10.00	L-Tryptophan	1.00
Sodium Chloride	5.00		

**Final pH 7.5 ± 0.1 at 25°C**

### PREPARATION

Suspend 16 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Distribute in test tubes, 3 ml in each. Close the tubes with cotton or with a plastic or metallic cap and sterilize in autoclave at 121°C for 15 minutes. The prepared medium should be stored at 2-8°C. The color is amber, slightly opalescent.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

### USES

TRYPTOPHAN CULTURE BROTH is used for the quick and standard test for the detection of *E. coli* and other coliforms by indole production. Indole formation depends exclusively on the development of bacteria producing enzymes called tryptophanases, which oxidize the L-tryptophan essential amino acid producing indole, skatole (methyl indole) and indole acetate. Several bacteria genera have species that are indole positive, particularly *Proteus*, *Escherichia*, *Edwardsiella*, *Flavobacterium*, *Aeromonas*, *Plesiomonas*, *Bacillus*, etc.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. No fermentable carbohydrates in the medium allow for the good synthesis of tryptophanase and therefore indole production.

The norm ISO 9308 recommends to inoculate the characteristics colonies isolated from TTC Chapman Agar (Cat. 1076) incubated at 36±2°C for 21 ± 3 hours and incubate at 44 ± 0.5°C for 21 ± 3 hours. Incubation at 44°C inhibits growth of many indole-positive genera except *E.coli*.

Indole production is determined by adding a few drops of Kovac's Reagent. (Cat. 5205) A positive test is indicated by the development of a red color in the reagent layer.

### MICROBIOLOGICAL TEST

The following results were obtained from type cultures after incubation at a temperature of 44 ± 0.5°C and observed after 21 ± 3 hours, with the addition of Kovac's Reagent (cat.5205) for Indole production.

Microorganisms	Indole
<i>Escherichia coli</i> ATCC 25922	+
<i>Klebsiella pneumoniae</i> ATCC 13833	-

### BIBLIOGRAPHY

ISO 9308-1. Water quality-Detection and enumeration of *Escherichia coli* and coliform bacteria. Part 1: Membrane filtration method



## STORAGE

Once opened keep powdered medium closed to avoid hydration.



2°C