

## Tryptophan Broth (i23270)

This culture medium is intended for growing intermediate cultures in the differentiation of *coliform* bacteria when carrying out the bacteriological analysis of water as recommended in the German Standard Methods and the German drinking water regulation (1990).

Industry: Food / Water

## Principles & Uses

Tryptophan Broth, formulated according to ISO Committee recommendations, plays a crucial role in detecting Enterohemorrhagic *Escherichia coli* (EHEC), specifically *E. coli* O157:H7, known for causing infections through fecal contamination in food and water. The medium's modification from the original APHA formula involves removing tryptophan. Key components include tryptone, sodium chloride for osmotic equilibrium, and tryptophan as a substrate for detecting tryptophanase. The indole reaction, facilitated by Kovac's reagents, enables the identification of *E. coli* O157:H7.

In *E. coli* O157:H7 testing, Modified Tryptone Soya Broth enriches the sample, followed by isolation on MacConkey Sorbitol Agar. Pale colonies are considered presumptive, and an indole test, utilizing Tryptophan Broth, confirms *E. coli* O157:H7.

This comprehensive approach ensures a standardized and efficient process for identifying *E. coli*, especially EHEC strains, in various samples.

## Composition (gr/L)

Tryptone 10 g, L-Tryptophan 1 g, Sodium chloride 5 g.  
Final pH at 25°C 7.2 ± 0.2

## Preparation from dehydrated Powder

Suspend 16 g of the powder in 1 L of purified water.  
Autoclave at 121°C for 15 minutes.

## Quality Control

Dehydrated Appearance: cream powder, free-flowing and homogeneous.

Prepared Appearance: Clear, limpid amber solution.

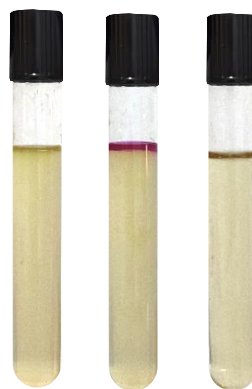
Reaction of 1.6% Solution at 25°C: pH 7.2 ± 0.2

## Cultural Response

Typical culture response after 21 hours of incubation at 44°C.

Organism (ATCC*)	Recovery	Indole production
<i>Escherichia coli</i> (25922)	Good	+
<i>Escherichia coli</i> (8739)	Good	+
<i>Salmonella typhimurium</i> (14028)	Good	-

\*ATCC is a registered trade mark of the American Type Culture Collection.



*Salmonella typhimurium* which indicates Indole negative test (left). *Escherichia coli* with indole positive test (middle). Prepared Culture Media (right).

## Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.