

## Peptone Water (i23137)

Peptone Water (indole free) is used for cultivating non-fastidious organisms, for studying carbohydrate fermentation patterns and for performing the indole test.

## Principles & Uses

Peptone Water, designed for versatile applications, serves as an ideal substrate for indole production studies. Rich in tryptophan, the peptone enables indole detection using Kovacs or Ehrlich reagents. Additionally, Peptone Water functions as a foundational medium for carbohydrate fermentation investigations, incorporating sugars and indicators like phenol red. The formulation aligns with Shread, Donovan, and Lee's recommendations. With an adjusted pH of 8.4, it cultivates and enriches *Vibrio* species. Comprising essential nutrients, peptone offers nitrogenous and carbonaceous compounds, while sodium chloride maintains osmotic balance. To assess carbohydrate fermentation, sugars like saccharose, rhamnose, and salicin are introduced, with phenol red indicating acidity changes. Gas production is gauged using Durham's tubes.

Peptone Water, also recognized as Tryptone Water, plays a pivotal role in detecting *Enterobacteriaceae*, particularly *E. coli*, in water and food samples through indole production.

## Composition (gr/L)

Peptone 10 g, Sodium chloride 5 g.

Final pH at 25°C 7.3 ± 0.2

## Preparation from dehydrated Powder

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

## For Determining Carbohydrate Fermentation Patterns

Add 1.8 mL 1% phenol red solution to 1 liter rehydrated Peptone Water. Mix thoroughly. Dispense into test tubes containing inverted Durham vials. Autoclave at 121°C for 15 minutes. Aseptically add sufficient sterile carbohydrate solution to yield a 1% final concentration. Rotate each tube to thoroughly distribute the carbohydrate.

## Quality Control

Dehydrated Appearance: White to light beige, free flowing, homogeneous.

Prepared Appearance: Light to medium amber, clear to slightly opalescent.

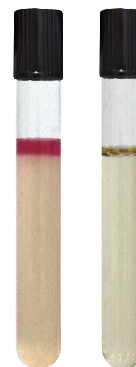
Reaction of 1.5% Solution at 25°C: pH 7.3 ± 0.2

## Cultural Response

Inoculate and incubate at 35 ± 2°C for 18-24 hours. Add 0.5 mL Indole Reagent (Kovacs) to the tubes to test for indole production. Formation of a red color denotes a positive indole test.

| Organism (ATCC*)                    | Recovery | Indole Production |
|-------------------------------------|----------|-------------------|
| <i>Enterobacter cloacae</i> (13047) | Good     | -                 |
| <i>Escherichia coli</i> (25922)     | Good     | +                 |

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



*Escherichia coli* (left). Prepared Culture Media (right).

## Storage

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