

Peptone Water

Intended Use

Peptone Water is used for cultivating nonfastidious organisms, for studying carbohydrate fermentation patterns and for performing the indole test.

Summary and Explanation

The formulation of Peptone Water makes it useful for cultivating nonfastidious organisms.¹ This nonselective medium has been used as a basal medium for biochemical tests such as carbohydrate fermentation patterns and production of indole.^{1,2}

Principles of the Procedure

Peptone Water contains peptone as a source of carbon, nitrogen, vitamins and minerals. Sodium chloride maintains the osmotic balance of the medium.

User Quality Control

Identity Specifications

Difco™ Peptone Water

Dehydrated Appearance: Cream-white to light tan, free-flowing, homogeneous.

Solution: 1.5% solution, soluble in purified water upon warming with frequent agitation. Solution is light amber, clear to very slightly opalescent.

Prepared Appearance: Light amber, clear to slightly opalescent.

Reaction of 1.5% Solution at 25°C: pH 7.2 ± 0.2

Cultural Response

Difco™ Peptone Water

Growth/Indole Reaction

Prepare the medium per label directions. Inoculate with a fresh culture and incubate at 35 ± 2°C for 18-48 hours. Indole reaction is read using the BBL™ DrySlide™ Indole test slide (Cat. No. 231748).

ORGANISM	ATCC™	RECOVERY	INDOLE REACTION
<i>Escherichia coli</i>	25922	Good	Positive

Carbohydrate Fermentation

Prepare the medium per label directions with the addition of phenol red and dextrose. Inoculate and incubate at 35 ± 2°C for 18-48 hours.

ORGANISM	ATCC™	INOCULUM CFU	RECOVERY	ACID PRODUCTION
<i>Escherichia coli</i>	25922	10 ² -10 ³	Good	Positive
<i>Staphylococcus aureus</i>	25923	10 ² -10 ³	Good	Positive

Formula

Difco™ Peptone Water

Approximate Formula* Per Liter

Peptone	10.0	g
Sodium Chloride	5.0	g

*Adjusted and/or supplemented as required to meet performance criteria.

Directions for Preparation from Dehydrated Product

1. Dissolve 15 g of the powder in 1 L of purified water.
2. Warm slightly with frequent agitation to completely dissolve the powder.
3. Autoclave at 121°C for 15 minutes.
4. Test samples of the finished product for performance using stable, typical control cultures.

For Determining Carbohydrate Fermentation Patterns

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

Procedure

For Determining Carbohydrate Fermentation Patterns

1. Inoculate tubes with test organisms.
2. Incubate tubes at 35 ± 2°C for 18-48 hours.
3. Observe for color change.

For Performing the Indole Test

1. Inoculate tubes with test organisms.
2. Incubate tubes at 35 ± 2°C for 24 or 48 hours.
3. Using an inoculation loop, spread a loopful of culture over the reaction area of a BBL™ DrySlide™ Indole slide.
4. Examine the reaction area for appearance of a pink color within 30 seconds.

Expected Results

For Determining Carbohydrate Fermentation Patterns

Acid is produced when carbohydrates are fermented. This is indicated by a yellow color in the medium. Gas production is indicated by the presence of gas bubbles in the fermentation tube.

For Performing the Indole Test

Observe for the formation of a pink color in the DrySlide reaction area, which indicates a positive test for indole production.

References

1. MacFaddin. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, Md.
2. Balows, Hausler, Herrmann, Isenberg and Shadomy (ed.). 1991. Manual of clinical microbiology, 5th ed. American Society for Microbiology, Washington, D.C.

Availability

Difco™ Peptone Water

ISO

Cat. No. 218071 Dehydrated – 500 g

Europe

Cat. No. 257631 Prepared Bottle, 400 mL

BBL™ DrySlide™ Indole

Cat. No. 231748 Pkg. – 25 x 3 slides