



Peptone Water

M028S

Peptone Water is used as all purpose growth medium and as a base for carbohydrate fermentation medium

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	20.000
Sodium chloride	5.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes.

Principle And Interpretation

Peptone Water is recommended by BIS (1) for detection of Indole production by *Escherichia coli*. A slightly different formulation of Peptone water/ Peptone water with phenol red is recommended (2,3,4) for studying the ability of organisms to ferment a specific carbohydrate which aids in differentiation of genera and species. Peptone water with phenol red is recently recommended by ISO committee (5) to study fermentation reactions of *Yersinia enterocolitica*. Peptone water with pH adjusted to 8.4 is suitable for the cultivation and enrichment of *Vibrio* species.

Peptic digest of animal tissue provides essential nutrients. Sodium chloride maintains the osmotic balance. To detect indole production add 0.5 ml of Kovacs reagent to the tube and shake the tube gently. Appearance of a red colour indicates presence of indole.

Quality Control

Appearance

Light yellow coloured homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured clear solution

Reaction

Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.4±0.2

Cultural Response

M028S: Cultural characteristics observed after an incubation at 35-37°C for 24 - 48 hours .

Organism	Inoculum (CFU)	Growth	Indole
Cultural Response <i>Enterobacter aerogenes</i> ATCC 13048	50-100	luxuriant	Negative reaction, no colour development / cloudy ring
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	Positive reaction, red ring at the interface of the medium

<i>Salmonella Typhimurium</i> ATCC 14028	50-100	luxuriant	Negative reaction, no colour development / cloudy ring
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	Negative reaction, no colour development / cloudy ring

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Bureau of Indian Standards IS: 5887 (Part I) 1976, reaffirmed 1986.
2. Macfaddin J., 1980, Biochemical Tests for Identification of Medical Bacteria, 2nd ed., Williams and Wilkins, Baltimore.
3. Finegold and Baron, 1986, Bailey and Scotts Diagnostic Microbiology, 7th ed., The C.V Mosby Co., St. Louis.
4. Lennette and others (Eds), 1985, Manual of Clinical Microbiology, 4th ed. ASM, Washington D.C.
5. International Organization for Standardization (ISO), 1994, Draft ISO/ DIS 10273.

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