PEPTONE WATER (7365)

Intended Use

Peptone Water is used for the cultivation of non-fastidious microorganisms, indole testing, and as a basal medium for carbohydrate fermentation studies in a laboratory setting. Peptone Water is not intended for use in the diagnosis of disease or other conditions in humans.

Product Summary and Explanation

Peptone Water is a minimal growth medium. The formulation of Peptone Water permits cultivation of non-fastidious organisms.[1] This non-selective medium has been used as a basal medium for biochemical tests such as carbohydrate fermentation patterns and production of indole.[1,2] A 1% final carbohydrate concentration with phenol red (0.018 g/L) indicator and a Durham tube can be used for fermentation studies.

Principles of the Procedure

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

Formula / Liter

Peptone..... 10 g
Sodium Chloride ..... 5 g
Final pH: 7.2 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions

1. For Laboratory Use Only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Dissolve 15 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

If Determining Carbohydrate Fermentation Patterns

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

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and tan.

Prepared Appearance: Prepared medium is gold to amber, clear to slightly hazy, with none to light precipitate.

Expected Cultural Response: Cultural response in Peptone Water incubated aerobically at 35 ± 2°C and examined for growth at 18 – 24 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results
Escherichia coli ATCC® 25922	10 - 300	Growth
Salmonella typhimurium ATCC® 14028	10 - 300	Growth
Staphylococcus aureus ATCC® 25923	10 - 300	Growth

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Carbohydrate Fermentation

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

Indole Test

Using aseptic technique, suspend the commercially available Indole Test Strip 100 mm above the surface of a 24 or 48 hour culture. Incubate at 37°C for 5 - 30 minutes.

Results

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 Durham tube.

Indole Test

Observe for the formation of a violet color on the strip indicating a positive test for indole production.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure

Due to varying nutritional requirements, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

Peptone Water	**Code No.**	**7365A**	**500 g**
		7365B	**2 kg**
		7365C	**10 kg**

References

1. **MacFaddin, J. F.** 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1, p. 610-612. Williams & Wilkins, Baltimore, MD.
2. **Balows, A., W. J. Hausler, K. L. Herrmann, H. D. Isenberg, and H. J. Shadomy (eds.).** 1991. Manual of clinical microbiology, 5th ed. American Society for Microbiology, Washington, D.C.
3. **Finegold, S. M., and W. Martin.** 1982. Bailey and Scott's diagnostic microbiology, 6th ed. St. Louis.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.

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