

Instructions for Use

REF - BM0300

Peptone Water

Bottled Media

1. Intended Use

For in vitro diagnostic use. BM0300 Peptone Water is a general-purpose medium that supports the cultivation of non-fastidious organisms.

2. Composition*

<u>Ingredient</u>	<u>g/L</u>
Peptones	5.0
Tryptone	5.0
Sodium chloride	5.0

*Adjusted/supplemented as needed to meet performance requirements

3. Summary and Explanation

Peptone Water is particularly suitable as a substrate in the study of indole production. Peptone used in Peptone Water is rich in tryptophan content that aid in the detection of the indole using either Kovacs or Ehrlich reagent ⁽¹⁾.

Peptone Water is often utilized as a base for carbohydrate fermentation studies with the addition of sugar and indicators by studying the ability of an organism to ferment a specific carbohydrate which aid in the differentiation of genera and species.

4. Principle

Tryptone and peptone function as sources of carbon, nitrogen and vitamins in this medium and sodium chloride maintains osmotic balance.

5. Physical Characteristics

	Appearance and Colour	pH
Medium	Straw liquid	7.2 ± 0.2

6. Materials Provided

BM0300 Peptone Water can be provided in the formats detailed below. Each bottle is ink-jet printed or labelled with (abbreviated) product name, product code, lot number and expiry date.

Product Code	Product Format
BM0300-M002-10	50 x 10ml in Thin Wall Universals
BM0300-M003-3	50 x 3ml in Thin Wall Bijous
BM0300-M003-5	50 x 5ml in Thin Wall Bijous
BM0300-M013-5	50 x 5ml in (150mm x 16mm) Tubes

7. Materials Needed but not Provided

Standard microbiological laboratory materials e.g., sterile loops or swabs, collection containers, incubators, media for isolation and quality control organisms.

8. Specimens

BM0300 Peptone Water is suitable for the testing of the following specimens:

- Isolated colonies from specimens

Sampling and transport equipment must be used in accordance with the end user's suppliers' recommendations. Refer to appropriate standard method or local guidance on sample collection and subsequent processing.

9. Test Procedures and Interpretation of results

Carbohydrate Fermentation:

Inoculate tubes with test organism. Incubate tubes at 35 ± 2°C aerobically for 18 - 48 hours. Observe for colour change if a pH indicator has been added.

Indole Test ⁽¹⁾

- Inoculate tubes of BM0300 Peptone Water and incubate for 35 ± 2°C aerobically for 24 - 48 hours.

- For Kovac's reagent method: Add 0.2ml of Kovac's reagent and shake. Allow to stand for 10 minutes and observe the result. A dark red colour in the amyl alcohol surface layer constitutes a positive indole test; no change in the original colour of the reagent constitutes a negative test.
- For Ehrlich reagent method: Withdraw a small portion of the culture and add an equal volume of the reagent. Shake the mixture and allow to stand for a few minutes; a rose colour indicates the presence of indole. If indole is present, this colour change may be accelerated by the addition of saturated potassium persulphate solution.

10. Quality Control

Organism	Incubation	Result (Specificity)
<i>E. coli</i> (NCTC 12241)	37 ± 1°C aerobically for 18-24 hours	Broth: Turbid. Subplate: Red colonies
<i>S. typhimurium</i> (NCTC 12023)	37 ± 1°C aerobically for 18-24 hours	Broth: Turbid. Subplate: Yellow colonies
<i>S. aureus</i> (NCTC 12981)	37 ± 1°C aerobically for 18-24 hours	Broth: Turbid. Subplate: Pink colonies
Subculture 1µl onto MacConkey without Salt Agar and incubate plates at 37 ± 1°C for 18-24 hours.		

It is the responsibility of the user to perform Quality Control testing taking into consideration the intended use of the medium and in agreement with any local relevant guidelines (e.g., frequency, strains used, atmosphere, incubation temperature).

11. Performance

To fully verify BM0300 Peptone Water performance, samples were tested to assess turbidity, colony morphology and recovery level when incubated at 37 ± 1°C for 18-24 hours, before being subcultured on MacConkey without Salt Agar and incubated at 37 ± 1°C for 18-24 hours. All samples grew and showed good recovery and the correct morphology of the required test organisms: *Escherichia coli* (NCTC 12241), *Salmonella typhimurium* (NCTC 12023) and *Staphylococcus aureus* (NCTC 12981). Therefore, it can be concluded that BM0300 Peptone Water, meets performance criteria when used according to the instructions outlined above. Trend analysis data available upon request.

12. Limitations of the Media

- Biochemical and, if indicated, serological testing using pure cultures may be necessary for complete identification; these tests should be performed from a non-selective agar.
- Sub-cultures may be necessary to ensure the purity of the inoculant. Mixed or contaminated cultures will give false reactions.
- Due to natural variation, some strains may grow poorly on this medium.
- Some sugar solutions may affect the pH of the Peptone Water.
- The medium is not well suited for the growth or maintenance of fastidious microorganisms due to its low nutrient content.

13. Precautions and Warnings

This product is considered non-hazardous under CLP regulations. Wear such PPE as recommended by laboratory COSHH assessment. During and after use, always handle all materials in a manner conforming to Good Laboratory Practices and consider that material under test should be regarded as a potential biohazard if mishandled.

Refer to E&O BM0300 Bottled Media Material Safety Data Sheet.

14. Storage conditions and Shelf life

Store BM0300 in the original bottle with the lid tightly closed at between 15 and 30°C. Kept under these conditions it may be used up to date of expiry shown on product label.

Dispose of in accordance with local and national authority requirements. Do not use media if it is contaminated, discoloured or out of date. Additionally, do not use medium if it has been stored inappropriately or the packaging has been damaged.

15. References

1. Public Health England (2018) Indole test. UK Standards for Microbiology Investigations. Bacteriology – Test Procedures, TP 19(4). London: Standards Unit, National Infection Service.

Version History*

- 001 22/05/23 - New Document Created
002 05/07/24 - Updated storage conditions

*Note: minor typographical, grammatical, and formatting changes are not included in the revision history.

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TABLE OF APPLICABLE SYMBOLS

 REF Catalogue number	 LOT Batch code	 IVD In vitro Diagnostic Medical Device	 Manufacturer	 Use by
 Temperature limitation	 Contents sufficient for <n> tests	 Consult Instructions for Use	 Keep away from direct light	 Store in a dry place