



PRODUCT SPECIFICATION SHEET

Peptone Water w/ Phenol Red (DM306)

Intended Use

Peptone Water w/ Phenol Red (DM306) is recommended for studying fermentation ability of *Yersinia enterocolitica*.

Product Summary and Explanation

Peptone Water is a minimal growth medium, particularly suitable as a substrate in the study of indole production. Peptic digest of animal tissue used in Peptone Water is rich in tryptophan content. Peptone Water is also utilized as a base for studying patterns of carbohydrate fermentation with the addition of sugar and indicators such as bromocresol purple, phenol red or bromothymol blue. Peptone Water with Phenol Red is recommended^(1, 2, 3) for studying the ability of an organism to ferment a specific carbohydrate which aid in differentiation of genera and species. The formulation of Peptone Water makes it useful for cultivating non-fastidious organisms.⁽¹⁾ This medium is recommended to study fermentation reactions of *Yersinia enterocolitica*. *Yersinia enterocolitica* is a gram negative bacterium, belonging to the family *Enterobacteriaceae*. This organism is the causative agent of a zoonotic disease yersiniosis occurring in humans as well as wide array of animals such as cattle, pigs and birds.⁽⁴⁾ Peptone Water with pH adjusted to 8.4 is suitable for the cultivation and enrichment of *Vibrio* species.

Principles of the Procedure

Peptone Water w/ Phenol Red contains peptic digest of animal tissue which provides essential nutrients necessary for growth. Sodium chloride maintains the osmotic balance of the medium. Phenol red is added as a pH indicator. Fermentation ability of microorganisms is studied by addition of carbohydrates separately to the basal medium before or after sterilization, such as saccharose, rhamnose, salicin, glucose, dextrose etc. at a concentration of 0.5%. Most of the end products of carbohydrate fermentation are organic acids, which, in the presence of phenol red, show a colour change of the medium from red to yellow. If desired, Durhams tube may be used to detect the gas production if produced. The addition of some sugars can lower the pH of the medium. That can be adjusted with sterile 0.1 N NaOH.

Formula / Liter

Ingredients	Gms / Liter
Peptic digest of animal tissue	10.00
Sodium chloride	5.00
Phenol red	0.02
Final pH: 6.8 ± 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. Suspend 15.02 grams of the medium in one liter of distilled water.
2. Add the test carbohydrate in desired quantity and dissolve completely.





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3. Dispense in tubes with or without inverted Durhams tubes.
4. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.

Quality Control Specifications

Dehydrated Appearance	Light yellow to light pink homogeneous free flowing powder
Prepared Medium	Red coloured clear solution without any precipitate
Reaction of 1.5% Solution	pH : 6.8 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved				
		Inoculum (CFU)	Recovery	L (+)Rhamnose (Acid)	Saccharose (Acid)	Salicin (Acid)
1.	<i>Yersinia enterocolitica</i> ATCC 27729	50-100	good-luxuriant	positive reaction (moderate)	positive reaction	negative reaction
2.	<i>Yersinia pseudotuberculosis</i> ATCC 29833	50-100	good-luxuriant	positive reaction (occasional strain are rhamnose positive)	negative reaction	positive reaction

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

Test Procedure

Refer appropriate references for standard test procedures.

Results

Refer appropriate references and procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10- 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

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

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.





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Packaging

Product Name : Peptone Water w/ Phenol Red

Product Code : DM306

Available Pack sizes : 500gm

References

1. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
2. Finegold S. M. and Baron E. J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th Ed., The C.V. Mosby Co., St. Louis.
3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
4. Collins FM (1996). Pasteurella, and Francisella. In: Barron's Medical Microbiology (Barron S et al., eds.) 4th ed., Univ of Texas Medical Branch.

Further Information

For further information please contact your local MICROMASTER Representative.






MICROMASTER LABORATORIES PRIVATE LIMITED

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Unit 38/39, Kalpataru Industrial Estate,
Off G.B. Road, Near 'R-Mall', Thane (W) - 400607. M.S. INDIA.
Ph: +91-22-25895505, 4760, 4681. Cell: 9320126789.

Email: micromaster@micromasterlab.com

sales@micromasterlab.com

Prepared By	Checked By	Approved By
 01.01.2018	 01.01.2018	 01.01.2018
Microbiologist	Head Quality Control	Head Quality Assurance

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