PRODUCT SPECIFICATION SHEET

Andrade Peptone Water (DM013)

Intended Use
Andrade Peptone Water (DM013) is recommended for study of fermentation reactions, when a carbohydrate is added to the basal medium.

Product Summary and Explanation
Bacteria differ widely in their ability to metabolize carbohydrates and related compounds. Carbohydrate fermentation reactions aids in the differentiation and identification of various bacteria. Peptone Water may be used as a growth medium or as the basis of carbohydrate fermentation media, whilst a pure culture in Peptone Water is a convenient inoculum for a series of fermentation tubes or other diagnostic media. The medium was formerly used for the performance of the indole test, but now better results can be obtained by the use of Tryptone Water. Peptone Water may be modified to make it suitable for carbohydrate fermentation tests by the addition of Andrade indicator and the required carbohydrate, (Peptone Water Sugars).[1] Desired carbohydrate is added to the medium, which is inoculated with the test organism. If the test organism metabolizes the added carbohydrate, acids are produced, thereby lowering the pH of the medium. This causes a subsequent colour change of the indicator, from colourless to pink to red. If the added carbohydrate is not metabolized, the medium remains pale tan to straw coloured. Gas produced during fermentation is collected in the Durhams tube.

Principles of the Procedure
Andrade Peptone Water contains peptic digest which is free from fermentable carbohydrates and the medium is also free from nitrates which may interfere with gas production. Andrade indicator is a solution of acid-fuchsin titrated with sodium hydroxide until the colour changes from pink to yellow. When the indicator is added to Peptone Water it is colourless to slightly pink at pH 7.2, becomes pink at acid pH levels and yellow at alkaline pH levels (range 5±8). The medium is pink when hot but becomes straw coloured on cooling. Test carbohydrate solutions should be sterilized separately and aseptically added to sterile Andrade Peptone Water. The biochemical identification of organisms capable of growing in this medium is made by various sugar fermentation results.

Formula / Liter

Ingredients	Gms / Liter
Peptic digest of animal tissue	10.00
Sodium chloride	5.00
Andrade indicator	0.10
Final pH: 7.4 ± 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 15.1 grams in one liter of distilled water.
2. Heat, if necessary, to dissolve the medium completely.
3. Dispense in test tubes containing inverted Durhams tubes.
4. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
5. Cool to room temperature and aseptically add sterile stock solution of carbohydrate to a final concentration of 0.5% to 1.0% (w/v).

Quality Control Specifications

Dehydrated Appearance	Cream to yellow coloured with pink tinge, homogeneous free flowing powder
Prepared Medium	Light pink to straw coloured clear solution without any precipitate
Reaction of 1.51% solution	pH 7.4 ± 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)	Growth	Acid in absence of dextrose	Gas in absence of dextrose	Acid with added dextrose	Gas with added dextrose
1.	*Escherichia coli* ATCC 25922	50-100	good-luxuriant	negative reaction	negative reaction	positive reaction, colour changes to pink red	positive reaction
2.	*Klebsiella pneumoniae* ATCC 13883	50-100	good-luxuriant	negative reaction	negative reaction	positive reaction, colour changes to pink red	positive reaction
3.	*Proteus vulgaris* ATCC 13315	50-100	good-luxuriant	negative reaction	negative reaction	positive reaction, colour changes to pink red	positive reaction
4.	*Salmonella Typhi* ATCC 6539	50-100	good-luxuriant	negative reaction	negative reaction	positive reaction, colour changes to pink red	negative reaction
5.	*Salmonella Typhimurium* ATCC 14028	50-100	good-luxuriant	negative reaction	negative reaction	positive reaction, colour changes to pink red	positive reaction
6.	*Shigella flexneri* ATCC 12022	50-100	good-luxuriant	negative reaction	negative reaction	positive reaction, colour changes to pink red	negative reaction
7.	*Shigella sonnei* ATCC 25931	50-100	good-luxuriant	negative reaction	negative reaction	positive reaction, colour changes to pink red	negative reaction

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

Test Procedure
Refer to appropriate references for standard test procedures.

Results
Refer to appropriate references and standard test 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. Use fresh cultures of organisms only which have been presumptively identified by Gram staining and colony morphology.
2. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
3. Consult appropriate texts for detailed information and recommended procedures.

Packaging
Product Name : Andrade Peptone Water

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Product Code : DM013
Available Pack sizes : 100gm / 500gm

References

1. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
2. Cowan S. T. and Steel K. J., 1974, Manual of Identification of Medical Bacteria, 2nd Ed., Cambridge United Press.
3. Finegold S. M. and Baron E. J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th Ed., The C.V. Mosby Co., St. Louis
4. Murray P. R., Baron E. J., Jorgensen J. H., Pfaller M. A., Yolken R.H., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.

Further Information

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