Andrade Peptone Water

M885S

Andrade Peptone Water is a basal medium to which various carbohydrates can be added to study fermentation reactions. It is recommended by BIS committee under the specifications IS:5887(Part I and Part IV)-1976.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Sodium chloride	5.000
Andrade indicator	0.100
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 15.1 grams in 1000 ml distilled water.Heat if neccessary to dissolve the medium completely and dispense in test tubes containing inverted Durhams tubes. Sterilize by autoclaving at 10 lbs pressure (115°C) for 20 minutes. Cool to room temperature and aseptically add sterile stock solution of carbohydrate to a final concentration of 1.0% (w/v).

Principle And Interpretation

Andrade Peptone Water is recommended by BIS for isolation and detection of *Escherichia coli* from food as peptone water medium for carbohydrate fermentation tests (1). Andrade Peptone Water is used for studying the various carbohydrate fermentation patterns of different organisms including *Vibrio cholerae* and *Vibrio parahaemolyticus* (2, 3). The peptic digest of animal tissues used is free from fermentable carbohydrates (4, 5) and the medium is also free from nitrates which may interfere with gas production. Andrade indicator is a solution of acid fuchsin which when titrated with sodium hydroxide; changes colour from pink to yellow. The Andrade indicator changes colour from yellow to pink as the pH decreases(5). 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 (4, 6, 7).

Use fresh cultures of organisms only which have been presumptively identified by Gram staining and colony morphology. For final identification further biochemical tests are required.

Quality Control

Appearance
Light yellow coloured with pink tinge homogeneous free flowing powder

Colour and Clarity of prepared medium
Light pink coloured clear solution without any precipitate.

Reaction
Reaction of 1.51% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH
7.30-7.70

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

Cultural Response

Organism	Growth	Acid in absence of dextrose	Gas in absence of dextrose	Acid with added dextrose	Gas with added dextrose
Cultural Response					
Escherichia coli ATCC 25922	Luxuriant	Negative reaction	Negative reaction	positive reaction, colour	Positive reaction

				changes to pink red	
Klebsiella pneumoniae ATCC13883	Luxuriant	Negative reaction	Negative reaction	positive reaction, colour changes to pink red	Positive reaction
Proteus vulgaris ATCC 13315	Luxuriant	Negative reaction	Negative reaction	positive reaction, colour changes to pink red	Positive reaction
Salmonella Typhi ATCC 6539	Luxuriant	Negative reaction	Negative reaction	positive reaction, colour changes to pink red	Negative reaction
Salmonella Typhimurium ATCC 14028	luxuriant	Negative reaction	Negative reaction	positive reaction, colour changes to pink red	Positive reaction
Shigella flexneri ATCC 12022	Luxuriant	Negative reaction	Negative reaction	positive reaction, colour changes to pink red	Negative reaction
Shigella sonnei ATCC 25931	Luxuriant	Negative reaction	Negative reaction	positive reaction, colour changes to pink red	Negative reaction

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.Bureau of Indian Standards, IS : 5887 (Part - IV) 1976.
3.Bureau of Indian Standards, IS : 5887 (Part - V) 1976, reaffirmed 1986.
4.Cowan S.T. and Steel K.J., 1974, Manual of Identification of Medical Bacteria, 2nd ed., Cambridge United Press.
5.MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.I, Williams and Wilkins, Baltimore.
6.Finegold S.M. and Baron E.J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th ed., The C.V. Mosby Co., St. Louis.
7.Kelly, Brenner and Former, 1985, In Manual of Clinical Microbiology, 4th ed., Lennette, Balows, Hausler and Shadomy (Eds.), ASM, Washington D.C.

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