Andrade Peptone Water

Intended Use
Andrade Peptone Water is a basal medium to which various carbohydrates may be added to study fermentation reactions, particularly members of the *Enterobacteriaceae*.

Summary
Bacteria differ widely in their ability to metabolize carbohydrates and related compounds. Carbohydrate fermentation reactions aids in the differentiation and identification of various bacteria. Andrade Peptone Water is the most commonly used media for carbohydrate fermentation. 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 Durham's tube.

Principle
Peptone 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 which when titrated with sodium hydroxide; changes colour from pink to yellow. Andrade indicator changes colour from yellow to pink as the pH decreases. 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. 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.

Formula*

Ingredients	**g/L**
Peptone	10.0
Sodium Chloride	5.0
Andrade Indicator	0.10
Final pH (at 25°C)	7.4 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Clinical samples

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 15.10 g of the powder in 1000 mL purified / distilled water and mix thoroughly.
2. Boil with frequent agitation to dissolve the powder completely.
3. Dispense desired quantity in test tubes containing inverted Durham's tubes.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle

5. Cool to room temperature. Aseptically add sterile stock solution of carbohydrate to a final concentration of 0.5% to 1.0% (w/v).

Quality Control

Dehydrated Appearance: Light yellow coloured with pink tinge, homogenous, free flowing powder.
Prepared Appearance: Light pink coloured, clear solution without any precipitate.
Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 35°C-37°C

Organism (ATCC)	Growth	Acid*	Gas in absence of dextrose	Acid**	Gas with added dextrose
Escherichia coli (8739)	Good	-	-	+	+
Escherichia coli (25922)	Good	-	-	+	+
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	-	-	+	-
Shigella sonnei (25931)	Good	-	-	+	-

Note:
* Acid in the absence of added Dextrose ** Acid in the presence of added Dextrose

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Interpretation of Result

Acid is produced when the carbohydrate is fermented and this is indicated by a yellow colour change in the medium.
Gas production is indicated by the presence of gas bubbles in inverted Durham's tube.

Precautions / Limitations

Some sugar solutions may affect the pH of the medium. Care should be taken to avoid alterations in pH.
Mixed or contaminated cultures may give false reactions.
Andrade indicator may fade on prolonged storage and should not be used beyond the expiry date.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams & Wilkins, Baltimore.
2. Cowan S.T., Steel K.J., 1974, Manual of Identification of Medical Bacteria, 2nd Ed., Cambridge United Press.
3. Finegold S.M., Baron E.J., 1986, Bailey & 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.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201010110100	Dehydrated Culture Media	100 g
201010110500	Dehydrated Culture Media	500 g

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.