

Technical Information

Peptone Water w/ Phenol Red

Product Code: DM 1028I

Application: - Peptone Water w/ Phenol Red is recommended for studying the fermentation ability of *Yersinia enterocolitica*.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Sodium chloride	5.000
Phenol red	0.020
Final pH (25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Peptone Water is a suitable substrate in the study of indole production. Peptic digest of animal tissue used in Peptone Water is rich in tryptophan content.

Peptone Water with Phenol Red is recommended ⁽¹⁻³⁾ 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 also recommended to study fermentation reactions of *Yersinia enterocolitica*. Peptone Water with pH 8.4 is suitable for the cultivation and enrichment of *Vibrio* species.

Peptic digest of animal tissue provides essential nutrients. Sodium chloride maintains the osmotic balance of the medium. 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 which can be adjusted using sterile 0.1 N NaOH.

Methodology

Suspend 15.02 grams of powder media in 1000 ml distilled water. Add the test carbohydrate in desired quantity and dissolve completely.

Dispense in tubes with or without inverted Durhams tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Light yellow to light pink homogeneous free flowing powder

Colour and Clarity of prepared medium

Red coloured clear solution without any precipitate

Reaction

Reaction of 1.5% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH range 6.60-7.00

Cultural Response/ characteristics

DM 1028I: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.



Dehydrated Culture Media
Bases / Media Supplements

Organism	Inoculum (CFU)	Growth	L(+)Rhamnose (Acid)	Saccharose (Acid)	Salicin (Acid)
Yersinia enterocolitica ATCC 27729	50-100	luxuriant	positive reaction (moderate)	positive reaction	negative reaction
Yersinia pseudotuberculosis ATCC 29833	50-100	luxuriant	positive reaction (occasional strain are rhamnose positive)	negative reaction	positive reaction

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

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.

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