

Nutrient Agar

Intended Use

Universal culture media for cultivating and enumeration of less fastidious microorganisms.

Typical Composition (g/litre)

Peptone 5.0; Sodium chloride 5.0; HM peptone 1.5; Yeast extract 1.5; Agar 15.0

Mode of Action

Nutrient Agar is ideal for demonstration and teaching purposes where a more prolonged survival of cultures at ambient temperature is often required without risk of overgrowth that can occur with more nutritious substrate. This relatively simple formula has been retained and is still widely used in the microbiological examination of variety of materials and is recommended by standard methods. It is one of the several non-selective media useful in routine cultivation of microorganisms. It can be used for the cultivation and enumeration of bacteria, which are not particularly fastidious. Addition of different biological fluids such as horse or sheep blood, serum, egg yolk etc. makes it suitable for the cultivation of related fastidious organisms. Peptone, HM peptone B and yeast extract provide the necessary nitrogen compounds, carbon, vitamins and some trace ingredients necessary for the growth of bacteria. Sodium chloride maintains the osmotic equilibrium of the medium.

Preparation

Suspend 28 grams in 1 Litre distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well before pouring in sterile Petri plates.

Final pH (at 25°C)

Storage

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Experimental Procedure and Evaluation

Depend on the purpose for which the media are used.

Incubation: 24 h at 35 °C aerobically

Quality Control

Organism	Inoculum	Growth	Recovery
Escherichia coli ATCC 25922	50 - 100	Good-Luxuriant	>=70 %
Staphylococcus aureus ATCC 25923	50 - 100	Good-Luxuriant	>=70 %
Pseudomonas aeruginosa ATCC 27853	50 - 100	Good-Luxuriant	>=70 %
Streptococcus pneumoniae ATCC 19615	50 - 100	Good-Luxuriant	>=70 %
Salmonella Typhi ATCC 6539	50 - 100	Good-Luxuriant	>=70 %
Salmonella Enteritidis ATCC 13076	50 - 100	Good-Luxuriant	>=70 %
Salmonella Typhimurium ATCC 14028	50 - 100	Good-Luxuriant	>=70 %
Yersinia enterocolitica ATCC 9610	50 - 100	Good-Luxuriant	>=70 %
Yersinia enterocolitica ATCC 23715	50 - 100	Good-Luxuriant	>=70 %

Reference

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3. Pelczar, Chan and Kreig, 1986, Microbiology, 5th ed., McGraw-Hill Book Company, New York.
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6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition
7. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock. D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.