

Nutrient Broth

Intended Use

Nutrient Broth is used for the general cultivation of less fastidious microorganisms, can be enriched with blood or other biological fluids.

Typical Composition (g/litre)

Peptone 5.0; Sodium chloride 5.0; Beef extract 1.5; Yeast extract 1.5

Mode of Action

Nutrient Broth has the formula originally designed for use in the Standard Method for Examination of Water and Wastewater. It is one of the several non-selective media useful in routine cultivation of microorganisms (1, 7). It can be used for the cultivation and enumeration of bacteria, which are not particularly fastidious.

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 13.0 grams in 1 liter purified / distilled water. Heat, if necessary, to dissolve the medium completely. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Final pH (at 25°C) 7.4±0.2

Storage

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°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
Escherichia coli ATCC 25922	50 - 100	Good-Luxuriant
Staphylococcus aureus ATCC 25923	50 - 100	Good-Luxuriant
Pseudomonas aeruginosa ATCC 27853	50 - 100	Good-Luxuriant
Streptococcus pneumoniae ATCC 6303	50 - 100	Good-Luxuriant
Salmonella Typhi ATCC 6539	50 - 100	Good-Luxuriant
Streptococcus pyogenes ATCC 19615	50 - 100	Good-Luxuriant

Reference

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
2. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. 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.
5. Lapage S., Shelton J. and Mitchell T., 1970, Methods in Microbiology', Norris J. and Ribbons D., (Eds.), Vol. 3A, Academic Press, London.