

NUTRIENT AGAR
TM 1054

For cultivation of less fastidious microorganisms, can be enriched with blood or other biological fluids

Composition

Ingredients	Gms/Ltr.
Agar	15.00
Peptone	5.00
Sodium chloride	5.00
Beef extract	3.00

* Dehydrated powder, hygroscopic in nature, store in a dry place in tightly- sealed containers 25°C and protected from direct Sunlight.

Instructions for use

Dissolve 28gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (at 121°C) for 15 minutes. Cool to 45-50°C and pour into sterile Petri plates.

Appearance: Light cream colour, very slightly opalescent

pH (at 25°C): 7.2 ± 0.2

Principle

NUTRIENT AGAR is used for less fastidious microorganisms as well as for permanent cultures (general purposes medium). The medium contains Beef extract and Peptone as sources of nitrogen, vitamins, amino acids and carbon for potential microorganism's growth. Sodium chloride ensures osmotic balance. Thus, when adding blood, as supplement the blood cells will not rupture. Addition of 10% different biological fluids such as blood, serum and egg yolk makes it suitable for the cultivation of related fastidious organism. For eg., *Pseudomonas aeruginosa* produces a blue-green pigment, pyocyanin, which diffuses into the medium giving the plate a charactersitic colour. For growing specific bacteria culture, spread the bacteria on the plate using sterile swab or inoculating loop. The bacteria will grow and become visible in 24 – 48 hrs. It is generally used in the laboratory to prepare stock cultures of the bacteria.

Interpretation

Cultural characteristics observed after inoculating (10^3 - 10^5 CFU / ml), on incubation at 30 - 35°C for 18 - 72 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Recovery rate	Appearance of colony
<i>Streptococcus pneumoniae</i>	12228	10^3 - 10^5	Luxuriant	>= 70%	Cream
<i>Staphylococcus aureus</i>	25922	10^3 - 10^5	Luxuriant	>= 70%	Light pale or yellow pigment
<i>Escherichia coli</i>	25923	10^3 - 10^5	Luxuriant	>= 70%	Cream

Reference

1. M.A. Sagardoy, C.M. Salerno, Studies on heterotrophic bacteria in some Argentine soils, Anal. Edaf. Agrobiol. 42, 2069. (1984).
2. M.L. Gray, H.J. Stafseth, F. Thorp, The use of potassium tellurite, sodium azide and acetic acid in a selective medium for the isolation of *Listeria monocytogenes*, J. Bact., 59, 443. (1950).



PRODUCT DATA SHEET

3. Lapage .S, Shelton. T, Mitchell. T, Methods in Microbiology, J. Norris, D. Rippons (Eds.), Vol. 3A, Academic Press, London. (1970).
4. J. MacFaddin. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams, Wilkins, Baltimore. (1985).