

Yeast Extract Agar

Intended Use

It is highly nutritive medium recommended for the enumeration of total microbial plate count of in water.

Typical Composition (g/litre)

Peptone 5.0; Yeast extract 3.0; Agar 15.0

Mode of Action

Water can contain a large number of microorganisms coming in particular from the earth and vegetation. Yeast extract and peptone provide nitrogenous compounds, vitamin B complex and other growth nutrients. With incubation temperatures of 36°C and 22°C allows the detection of a large number of these organisms.

Preparation

Suspend 23 grams in 1 liter purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C pour into sterile petri plates. Final pH (at 25°C) 7.2±0.2

Storage

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label.

Specimen

Water samples

Experimental Procedure and Evaluation

From the water sample, make a decimal dilution bank with Ringer Solution (M525) and take aliquots to 2 parallel series of plates. Pour the molten, cooled (45°C) Yeast Extract Agar and homogenize with sample. Incubate one of the series of plates at 35°C for 24 hours and the other series of plates at 20-22°C for 3 days. Separate counts are made of the organisms forming visible colonies after 24 hours at 35°C and the organisms forming colonies after 3 days at 20-22°C.

The colonies per plate are counted for each incubation temperature and the microbial count/ml is calculated.

Quality Control

Organism	Inoculum	Growth	Recovery
Klebsiella aerogenes ATCC 13048	50 - 100	Luxuriant	>=70 %
Escherichia coli ATCC 25922	50 - 100	Luxuriant	>=70 %
Pseudomonas aeruginosa ATCC 27853	50 - 100	Luxuriant	>=70 %
Staphylococcus aureus ATCC 25923	50 - 100	Luxuriant	>=70 %

Reference

1. Taylor W. E., 1958, The Examination of Waters and Water Supplies, 7th Ed., Churchill Ltd, London, pg. 394, 778
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. 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.