

Technical Information

TGB Agar (Tryptone Glucose Beef Extract Agar)

Product Code: DM 1791

Application: - TGB (Tryptone Glucose Beef Extract) Agar is recommended for enumeration of bacteria in water, air, milk and other dairy products.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	5.000
Beef extract	3.000
Glucose	1.000
Agar	15.000
Final pH (at 25°C)	7.0±0.2

Principle & Interpretation

Heterotrophic plate count (HPC), formerly known as the standard plate count is a technique for knowing the number of live heterotrophic bacteria in a sample and for measuring changes that could have taken place during various treatment procedures. TGB Agar is a modification of Skim Milk Agar developed by Bower and Hucker ⁽¹⁾ for isolating bacteria in milk and other dairy products. TGB Agar, with added milk was used for the examination of dairy products and water ⁽²⁻⁴⁾. It is also recommended by APHA in testing bottled water ⁽⁵⁾.

Casein enzymic hydrolysate and beef extract provide nitrogenous and carbonaceous compounds along with other nutrients essential for the growth of organisms. Glucose serves as an energy source.

Methodology

Suspend 24 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 2.4% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH range

6.80-7.20

Cultural Response/Characteristics

DM 1791: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant	≥70%
<i>Enterococcus faecalis</i> ATCC 29212	50-100	luxuriant	≥70%
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	≥70%
<i>Lactobacillus casei</i> ATCC 9595	50-100	luxuriant	≥70%
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	luxuriant	≥70%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	≥70%



Dehydrated Culture Media
Bases / Media Supplements

Streptococcus pyogenes ATCC 19615

50-100

luxuriant

>=70%

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. Bowers L. S. and Huker J. G., 1935, Tech. Bull. 228, N.Y. State Agr. Exp. Sta.
2. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
3. Eaton A. D., Clesceri L. S. and Greenberg A W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
4. American Public Health Association, 1948, Standard Methods for the examination of Dairy Products, 9th Ed., APHA, New York, N. Y.
5. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

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