



TGB Agar (Tryptone Glucose Beef Extract Agar)

M791

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

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 24 grams in 1000 ml distilled water. Heat to boiling 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.

Principle And Interpretation

Heterotrophic plate count (HPC), formerly known as the standard plate count is a procedure for estimating the number of live heterotrophic bacteria in a sample and for measuring changes that could have occurred during various treatment procedures. TGB Agar is a modification of Skim Milk Agar developed by Bower and Hucker (1) for detecting 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.

Quality Control

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

6.80-7.20

Cultural Response

M791: 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%
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant	>=70%

Storage and Shelf Life

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

Reference

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.

Revision : 02/ 2015

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