

Plate Count Agar

Intended Use

Plate Count Agar is used for determining plate counts of microorganisms in food, water and wastewater by pour plate technique.

Typical Composition (g/litre)

Casein enzymic hydrolysate 5.0 ; Yeast extract 2.5 ; Dextrose 1.0 ; Sodium chloride 6.5 ; Agar 15.0

Mode of Action

Plate Count Agar originally formulated by Buchbinder et al, which is recommended by APHA FDA and ISO committee. BIS recommend present formulation for enumeration of microorganisms in food, water and wastewater. Casein enzymic hydrolysate provides amino acids and other complex nitrogenous substances. Yeast extract supplies Vitamin B complex. Plate Count Agar is also suitable for finding out bacterial count from sterile rooms.

Preparation

Suspend 30 grams in 1 liter distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Final pH (at 25°C) 7.0±0.1

Storage

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

Experimental Procedure and Evaluation

Depend on the purpose for which the medium is used. Incubation: 48 h at 30 °C aerobically

Quality Control

Organism	Inoculum	Growth	Recovery
Escherichia coli ATCC 25922	50 - 100	Luxuriant	>=70%
Bacillus subtilis ATCC 6633	50 - 100	Luxuriant	>=70%
Enterococcus faecalis ATCC 29212	50 - 100	Luxuriant	>=70%
Lactobacillus casei ATCC 9595	50 - 100	Luxuriant	>=70%
Staphylococcus aureus ATCC 25923	50 - 100	Luxuriant	>=70%
Streptococcus pyogenes ATCC 19615	50 - 100	Luxuriant	>=70%

Reference

1. Buchbinder, Baris and Goldstein, 1951, Publ. Hlth. Rep., 66:327
2. Marshall R. (Ed.), 1992, Standard Methods for the Examination of Dairy Products 16th ed., APHA, Washington, D.C.
3. Vanderzant C. and Splittstoesser D. (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd ed., APHA, Washington, D.C.
4. Greenberg A. E., Clesceri L. S. and Eaton A. D. (Eds.), 1992, Standard Methods for the Examination of Water and Waste Water, 18th ed., APHA, Washington, D.C.
5. U.S. Food and Drug Administration, 1995, Bacteriological Analytical Manual, 8th ed., AOAC, Arlington, Va.
6. International Organization for Standardization (ISO), 1991, Draft ISO/DIS 4833.