



Plate Count Agar

Medium for the enumeration of bacteria in food, water and other materials, according to APHA and ISO 4833.

DESCRIPTION

Plate Count Agar is a medium used for the determination of the total microbial content from food and animal feed, water and other materials.

This medium, also known as Tryptone Glucose Yeast Agar or Casein-Peptone Dextrose Yeast Agar, complies with the specifications given by the American Public Health Association and ISO 4833.

TYPICAL FORMULA

	(g/l)
Enzymatic Digest of Casein	5.0
Yeast Extract	2.5
Glucose	1.0
Agar	15.0

Final pH 7.0 ± 0.2 at 25°C

METHOD PRINCIPLE

Enzymatic digest of casein provides amino acids, nitrogen, carbon, vitamins and minerals for organisms growth. Yeast extract is a source of vitamins, particularly of B-group. Glucose is the fermentable carbohydrate. Agar is the solidifying agent.

PREPARATION

Dehydrated medium Suspend 23.5 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil shaking frequently until completely dissolved. Sterilize in autoclave at 121°C for 15 minutes.

Note: ISO 4833 recommends to add 1.0 g of skimmed milk powder per liter of medium when dairy products are examined.

Medium in tubes/bottles Melt the content of the tube/bottle in a water bath at 100°C (loosing the cap partially removed) until completely dissolved. Then screw the cap and check the homogeneity of the dissolved medium, if it is the case turning the tube/bottle upside down. Cool at 45-50°C, mix well avoiding foam formation and aseptically distribute into Petri dishes.

TEST PROCEDURE

1. Perform serial dilutions of the test sample in order to achieve a colony count of between 15 and 300 colonies per plate. Use a suitable diluent such as Buffered Peptone Water (ref. 24099) or Maximum Recovery Broth (ref. 20071).
2. Inoculate the medium by pour plating, spread plating or membrane filtration method.
3. Incubation conditions may vary depending on the organisms under study. For a general aerobic count, incubate aerobically at 30°C for 72 hours.

INTERPRETING RESULTS

Count colonies on all plates containing 15-300 colonies. Report the count as CFU per ml of sample allowing for dilution factors.

APPEARANCE

Dehydrated medium: free-flowing, homogeneous, light beige.
Prepared medium: slightly opalescent, light amber.

STORAGE

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed. Store bottles, tubes and prepared plates at 10-25°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

SHELF LIFE

Dehydrated medium: 4 years.
Medium in tubes/bottles: 2 years.
Medium in slant tubes: 1 year.
Ready-to-use plates: 6 months.

QUALITY CONTROL

The medium is inoculated with the microbial strains indicated in the QC table.

Inoculum for productivity: 50-100 CFU.

Incubation conditions: aerobically at $30 \pm 1^\circ\text{C}$ for 72 ± 3 hours.

QC Table.

Microorganism		Growth
<i>Bacillus subtilis</i>	WDCM 00003	Good
<i>Enterococcus faecalis</i>	WDCM 00009	Good
<i>Escherichia coli</i>	WDCM 00012	Good
<i>Staphylococcus aureus</i>	WDCM 00034	Good
<i>Pseudomonas aeruginosa</i>	WDCM 00024	Good

WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product is intended for professional use only and must be used by properly trained operators.

DISPOSAL OF WASTE









Disposal of waste must be carried out according to national and local regulations in force.

BIBLIOGRAPHY

1. EN ISO 11133:2014. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
2. ISO 4833 (2003) Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of microorganisms – Colony count technique at 30°C .
3. Davidson, Roth, and Gambrel-Lenarz (2004) In Wehr and Frank (ed.) Standard methods for the microbiological examination of dairy products, 17th ed. American Public Health Association, Washington, D.C.
4. Kornacki and Johnson (2001) In Downes and Ito (ed.) Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington D.C.
5. Greenberg A.E, L.S. Clesceri and A.D. Eaton (1992) Standards methods for the examination of water and wastewater, 18th ed. American Public Health Association, Washington D.C.

PRESENTATION		Contents	Ref.
Plate Count Agar	90 mm ready-to-use plates	20 plates	10032
Plate Count Agar	90 mm ready-to-use plates	100 plates	10032*
Plate Count Agar	140 mm ready-to-use plates	10 plates	10232
Plate Count Agar	55 mm ready-to-use RODAC plates	20 plates	15325
Plate Count Agar	60 mm ready-to-use plates	20 plates	163452
Plate Count Agar	Tubes	20 x 22 ml tubes	31073
Plate Count Agar	Tubes	10 x 22 ml tubes	34073
Plate Count Agar	Slant tubes	10 x 9 ml tubes	33070
Plate Count Agar	Bottles	6 x 500 ml bottles	470180
Plate Count Agar	Bottles	6 x 200 ml bottles	412260
Plate Count Agar	Bottles	6 x 150 ml bottles	401940
Plate Count Agar	Bottles	6 x 100 ml bottles	402260
Plate Count Agar	Dehydrated medium	500 g of powder	610040
Plate Count Agar	Dehydrated medium	100 g of powder	620040
Plate Count Agar	Dehydrated medium	5 kg of powder	6100405

TABLE OF SYMBOLS

LOT Batch code	 Keep away from sunlight	 Manufacturer	 Use by	 Fragile, handle with care
REF Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult Instruction For Use	 Do not reuse



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