



INSTRUCTIONS FOR USE – READY-TO-USE PLATED MEDIA

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For Laboratory Use Only

BD™ Plate Count Agar (Standard Methods Agar)

INTENDED USE

BD Plate Count Agar (Standard Methods Agar) is a Standard Methods medium used for enumerating aerobic bacteria in water, wastewater, foods and dairy products.¹⁻⁵ This medium is also recommended as a general plating medium for determining aerobic bacterial populations.

PRINCIPLES AND EXPLANATION OF THE PROCEDURE

Plate Count Agar was developed by Buchbinder, Baris and Goldstein in 1953 at the request of the American Public Health Association.⁶ Results showed that a dehydrated milk-free medium containing 0.25% yeast extract, 0.5% tryptone, 0.1% glucose and 1.5% Agar per liter approximated the productivity of Tryptone Glucose Extract Agar with added milk. Buchbinder *et al.* recommended that a dehydrated culture medium be used in preparing the standard plate count medium rather than preparing the medium from ingredients. Plate Count Agar is prepared with the same ingredients originally suggested by Buchbinder *et al.*⁷ Combinations of Yeast Extract and Tryptone have been used in media for the examination of dairy products for the presence of thermophilic organisms since 1928.^{8,9} This formula is specified in *Standard Methods for the Examination of Water and Wastewater*,¹

BD Plate Count Agar contains Pancreatic Digest of Casein and Yeast Extract which provide the carbon and nitrogen sources required for growth of a wide variety of organisms. Glucose is an energy source.

REAGENTS

BD Plate Count Agar

Approximate Formula* Per Liter Purified Water

Pancreatic Digest of Casein	5.0 g
Yeast Extract	2.5
Glucose	1.0
Agar	15.0

pH 7.0 +/- 0.2

*Adjusted and/or supplemented as required to meet performance criteria.

PRECAUTIONS

For laboratory use only.

Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

Consult **GENERAL INSTRUCTIONS FOR USE** document for aseptic handling procedures, biohazards, and disposal of used product.

STORAGE AND SHELF LIFE

On receipt, store plates in the dark at 2 to 8° C, in their original sleeve wrapping until just prior to use. Avoid freezing and overheating. The plates may be inoculated up to the expiration date and incubated for the recommended incubation times.

USER QUALITY CONTROL

Inoculate the plates with the strains mentioned below. Use 30 to 300 cfu per plate. Include **BD Trypticase™ Soy Agar** as a growth reference. Incubate for 18 to 48 hours at 32 or at 36° C for the bacteria and *Candida*, and for 3 to 4 days at 25 to 28° C for *A. brasiliensis*.

Strains	Growth Results
<i>Aspergillus brasiliensis</i> ATCC 16404	Growth fair to excellent
<i>Bacillus subtilis</i> ATCC 6633	Growth good to excellent
<i>Candida albicans</i> ATCC 10231	Growth good to excellent
<i>Escherichia coli</i> ATCC 25922	Growth good to excellent
<i>Shigella flexneri</i> ATCC 12022	Growth good to excellent
<i>Staphylococcus epidermidis</i> ATCC 12228	Growth good to excellent
<i>Staphylococcus aureus</i> ATCC 6538	Growth good to excellent
<i>Streptococcus pyogenes</i> ATCC 19615	Growth fair to good

PROCEDURE

Materials Provided

BD Plate Count Agar (Standard Methods Agar), provided in 90 mm **Stacker™** plates.

Materials Not Provided

Ancillary culture media, reagents and laboratory equipment as required.

Test Procedure

Perform serial dilutions on samples (food, water) to be tested using the heterotrophic (standard) plate count method. Select dilutions that will yield plates with counts of 30-300 colonies and, using sterile pipettes, apply the appropriate amount onto the surface of the medium. Spread with a sterile glass spatula. Other inoculation techniques may be used, if applicable.

Incubate at $32 \pm 1^\circ\text{C}$ or at $36 \pm 1^\circ\text{C}$ for 48 hours.

Results

Count colonies on all plates containing 30-300 colonies. Calculate the bacterial count per milliliter of sample by multiplying the average number of colonies per plate by the reciprocal of the dilution used. Report the count as CFU/ml.

LIMITATIONS OF THE PROCEDURE

BD Plate Count Agar (Standard Methods Agar) is not suitable for very fastidious aerobes and is not the medium of choice for strict anaerobes.

Use of this medium with clinical specimens has not been validated.

REFERENCES

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PACKAGING/AVAILABILITY

BD™ Plate Count Agar (Standard Methods Agar)

REF 254483 Ready-to-use Plated Media, 20 plates

FURTHER INFORMATION

For further information please contact your local BD representative.



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