Plate Count Agar

Catalog : HB0101-10-5k

Plate Count Agar is used for the cultivation of bacteria and for the enumeration of microorganisms in water, sewage, faeces and other materials. The medium contains sugar.

Approximate Formula:

Ingredients	gm/liter
Pancreatic digest of casein	5.0
Yeast extract	2.5
Dextrose	1.0
Agar	15.0

Final pH7.0±0.2 at 25℃

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

Directions:

Suspend 23.5g of the medium in one liter of deionized or distilled water. Mix well and heat with frequent agitation. Boil for 1 minute. Dispense into tubes or flasks. Sterilize in the autoclave at 121℃ (15 lbs.) for 15 minutes.

Principle and Interpretation:

Plate Count Agar is used for the cultivation of bacteria and for the enumeration of organisms in water, sewage, faeces and other materials. The medium contains sugar. Plate Count Agar is equivalent to the medium recommended by the APHA, PHLS and ISO for the plate count of micro-organisms in food. The APHA method consists of the preparation of pour plates using diluted samples, and counting colonies after incubation.

Pancreatic digest of casein provides amino acids and other complex nitrogenous substances. Yeast extract supplies Vitamin B complex. APHA recommends the use of pour plate technique. The samples are diluted and appropriate dilutions are added in Petri plates. Sterile molten agar is added to these plates and plates are rotated gently to ensure uniform mixing of the sample with agar. The poured plate count method is preferred to the surface inoculation method, since it gives higher results. Plate Count Agar is also suitable for enumerating bacterial count of sterile rooms.

Appearance:

Dehydrated medium is a free-flowing yellowish powder. The prepared medium is a kind of yellowish transparent gel.

Precautions:

This medium is for laboratory use only. Dried medium which is past shelf life, caking or color variation cannot be used.

Storage conditions and Shelf life:

Plate Count Agar must be stored tightly capped in the original container at 5-30°C. The dehydrated medium has a shelf life of 5 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8°C.

Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 35 - 37°C for 18 - 48 hours.

Microorganism	Strains Number	Inoculum (CFU)	Growth	Recovery	Remarks
Pseudomonas aeruginosa	ATCC 9027	20-200	luxuriant	≥70%	Colorless transparent colonies
Escherichia coli	ATCC 25922	20-200	luxuriant	≥70%	Colorless transparent large colonies
Bacillus subtilis	ATCC 6633	20-200	luxuriant	≥70%	White irregular colonies
Bacillus cereus	ATCC 11778	20-200	luxuriant	≥70%	White irregular colonies
Staphylococcus Aureus	ATCC 6538	20-200	luxuriant	≥70%	Yellowish colonies

Reference:

1. Buchbinder L., Baris Y., Aldd E., Reynolds E., Dilon E., Pessin V., Pincas L. and Strauss A., 1951, Publ. Hlth. Rep., 66:327.
2. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
3. GB4789.28-2013 People's Republic of China food safety national standard food microbiology test medium and reagent quality requirements.

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