Technical Data Sheet

Plate Count Agar
Ordering number: 1.46269.0020 / 1.46269.0100

Plate Count Agar is suitable for the determination of the total count of aerobic bacteria from milk, dairy products, water, and other sample materials.

The formulation of the basic medium complies with ISO 4833 and FDA-BAM.

Plate Count Agar is also called Tryptone Glucose Yeast Agar or Casein-Peptone Dextrose Yeast Agar.

Mode of Action

This medium does not contain any inhibitors or indicators and it is relatively rich in its nutrients. The enzymatic digest of casein (tryptone) is a nitrogen source containing a high level of free amino acids and yeast extract primarily supplies the B-complex vitamins. Glucose provides an energy source for the growth of bacteria whilst agar is the solidifying agent.

Typical Composition

Plate Count Agar	
Casein Peptone	5 g/l
Yeast Extract	2.5 g/l
Glucose	1 g/l
Agar	9-18 g/l

The appearance of the medium is clear and slightly yellowish. The pH value is in the range of 6.8-7.2. The medium can be adjusted and/or supplemented according to the performance criteria required.

Application and Interpretation

Each plate is provided with a label including a data matrix code for paperless plate identification. The code consists of a two-dimensional 20-digit serial number, which harbors the following information:

digits 1-3: here code 753 (corresponds to article 146269); digits 4-9: lot number; digits 10-14: batch specific individual number; digits 15-20: expiration date (YY/MM/DD).

Please check each agar plate before using it on sterility and pay attention to aseptic handling in order to avoid false positive results.

The recovery rate of all bacteria tested is given at 70 %. The culture medium is inoculated with the original sample material and/or in appropriate dilutions material using a sterilized spreader rod.

For the determination of the total count of aerobic bacteria using the pour plate method, the agar has to be liquefied at 95 °C in a water bath (tubes for 10 minutes, 200 ml bottles for 30 minutes, 400 ml bottles for 60 minutes) and afterwards cooled down in a second water bath with 45 °C (cooling times correlate with the respective heating times). The liquefied agar is then poured over the samples in the petri dishes, which are then swirled to mix the contents.

The culture medium is incubated aerobically for 24-48 hours at 29-31 °C.

Storage and Shelf Life

The product can be used for sampling until the expiry date if stored upright, protected from light and properly sealed at +2 °C to +8 °C.

Condensation can be prevented by avoiding quick temperature shifts and mechanical stress.

The testing procedures as described on the CoA can be started up to the expiry date printed on the label.

Disposal

Please mind the respective regulations for the disposal of used culture medium (e.g. autoclave for 20 min at 121 °C, disinfect, incinerate etc.).

Quality Control

Function	Control Strains	Inoculum CFU	Incubation	Expected Result
Productivity	Staphylococcus aureus ATCC 6538 WDCM 00032	10-100	24-48 h at 29-31 °C	Recovery 70-200 %
	Escherichia coli ATCC 8739 WDCM 00012			
	Pseudomonas aeruginosa ATCC 9027 WDCM 00026			
	Bacillus subtilis ATCC 6633 WDCM 00003			

Please refer to the actual batch related Certificate of Analysis.

Literature

Official collection of test procedures acc. to § 64 LMBG.

L 06.00-18 (May 1984): Bestimmung der aeroben Keimzahl bei 30 °C in Fleisch und Fleischerzeugnissen (Determination of Aerobic Bacterial Count at 30°C in Meat and Meat Products).

L 20.01-5 (June 1990): Bestimmung der aeroben Keimzahl bei 30°C in Mayonnaisen, emulgierten Soßen und kalten Fertigsoßen. Spatel- und Plattengußverfahren (Determination of Aerobic Bacterial Count at 30 °C in Mayonnaises, Emulsified Sauces, and Cold Premixed Sauces. Spatula and Pour-Plate Methods) (reference method).

L 42.00-2 (March 1987): Bestimmung der Keimzahl in Speiseeis. Gußverfahren (Determination of Bacterial Count in Ice Cream – Pour-Plate Method).

"Verordnung über gesundheitliche Anforderungen an Eiprodukte und deren Kennzeichnung", Eiprodukteverordnung (Ordinance on Health Requirements for Egg Products and their Labelling", Egg Product Ordinance), Federal Gazette; **21**: (I), p 545.

ISO International Standardisation Organisation. Microbiology of the food chain -- Horizontal method for the enumeration of microorganisms - Part 1: Colony count at 30 °C by the pour plate technique. EN ISO 4833-1:2013

ISO International Standardisation Organisation. Microbiology of the food chain -- Horizontal method for the enumeration of microorganisms - Part 2: Colony count at 30 °C by the surface plating technique. EN ISO 4833-1:2013.

APHA (2004) Standard Methods for the Examination of Dairy Products. 17th ed. American Public Health Association, Washington, D.C.

APHA (2012) Standard Methods for the Examination of Water. 22nd ed. American Public Health Association, American Water Works Association, Water Environment Federation, Washington, D.C.

Ordering Information

Product	Cat. No.	Pack size	Other Packaging Size
Plate Count Agar, Contact Plate	1.46154.0020	20 x 55 mm	
Plate Count Agar in plates	1.46269.0020	20 x 90 mm plates	100 x 90 mm plates
Plate Count Agar in Bottle	1.46365.0006	6 x 200 ml bottles	
Plate Count Agar in Bottle	1.46363.0006	6 x 400 ml bottles	
ReadyPlate™ 55 Plate Count Agar	1.46763.0020	20 x 55mm	
ReadyPlate™ 55 KIT Plate Count Agar	1.46764.0150	KIT*	
GranuCult™ Plate Count Agar acc. ISO 4833, ISO 17410 and FDA-BAM	1.05463.0500	500 g	5 kg
Skim Milk Powder	1.15363.0500	500 g	
GranuCult™ Plate Count Skimmed Milk Agar acc. ISO 4833 and ISO 17410	1.15338.0500	500 g	

**KIT Contains 150 plates and 150 EZPAK Membrane Filters*

Merck KGaA, 64271 Darmstadt,
Germany Fax: +49 (0) 61 51 / 72-60 80
mibio@merckgroup.com
www.merckmillipore.com/biomonitoring

Find contact information for your country at:
www.merckmillipore.com/offices
For Technical Service, please visit:
www.merckmillipore.com/techservice