

Standard Method Chromogenic Agar (PCA)

Cat. 1585

For total microbial plate count in foods.

Practical information

Applications	Categories
Non selective enumeration	General use

Industry: Food

Principles and uses

Standard Method Chromogenic Agar (PCA) is recommended for the enumeration of bacteria, which are indicators of microbial contamination in foods.

Enzymatic digest of casein provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Dextrose is the fermentable carbohydrate providing carbon and energy. Bacteriological agar is the solidifying agent. Chromogenic substrate allows quicker differentiation of aerobic microorganisms due to the magenta colonies. Yeast colonies grow as white colonies.

Formula in g/L

Enzymatic digest of casein	5	Bacteriological agar	15
Chromogenic mixture	0,12	Glucose anhydrous	1
Yeast extract	2,5		

Preparation

Suspend 23,6 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. AVOID OVERHEATING. DO NOT AUTOCLAVE. Dispense into appropriate containers.

Instructions for use

1 ml of the appropriate test dilution is added to the sterile medium at a temperature of 44-45°C, mixed gently and poured into sterile Petri dishes. Alternatively, dispense a portion of each test dilution (e.g., 0.1, 0.01 ml) into separate sterile Petri dishes. Add 10-12 ml of tempered (45°C) Standard Methods Chromogenic Agar to Petri dishes containing test dilutions. Swirl the dishes to thoroughly mix the medium and test dilution. Allow plates to cool and solidify.

Incubate the Petri dishes at 32±2 °C for 18-48 hours and count the developed colonies.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Clear amber, slightly opalescent	7,0±0,2

Microbiological test

Incubation conditions: (32±2 °C / 18-48 h).

Microrganisms	Specification	Characteristic reaction
Candida albicans ATCC 10231	Good growth	White colonies
Staphylococcus epidermidis ATCC 12228	Good growth	Magenta colonies
Enterobacter aerogenes ATCC 13048	Good growth	Magenta colonies
Salmonella typhimurium ATCC 14028	Good growth	Magenta colonies

Staphylococcus aureus ATCC 25923
Escherichia coli ATCC 8739

Good growth
Good growth

Magenta colonies
Magenta colonies

Storage

Temp. Min.:2 °C
Temp. Max.:8 °C

Bibliography

Standard Methods for the Examination of Dairy Products, 13th Ed. APHA, 1972. American Public Health Association.
Recommended Methods for the Microbiological Examination of Foods, APHA Inc. New York, 1958. Standard Methods for the Examination of Water and Wastewater, APHA Inc. New York, 1960.
*APHA: American Public Health Association Inc.