TM 1411 - STANDARD METHODS CASEINATE AGAR

INTENDED USE
For detection of proteolytic microorganisms.

PRODUCT SUMMARY AND EXPLANATION
Protein hydrolysis by microorganisms in foods may produce a variety of odour and flavour defects. Some of the common psychrotrophic spoilage bacteria are strongly proteolytic and cause undesirable changes in dairy, meat, poultry and seafood products, particularly when high populations are reached after extended refrigerated storage. Standard Methods Caseinate Agar, recommended by APHA is used for detection of proteolytic microorganisms. The medium is formulated as per Martley et al and exhibits greater sensitivity in the detection of the early stages of casein breakdown by the formation of zone of precipitation (insoluble paracaseins) in the transparent medium. Standard Methods Caseinate Agar is well buffered, and this reduces the occurrence of the false positive zones caused by acid production. This medium can be used for the simultaneous detection of total and proteolytic counts.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	5.000
Yeast extract	2.500
Dextrose	1.000
Sodium caseinate	10.000
Trisodium citrate	4.410
Calcium chloride	2.220
Agar	15.000

PRINCIPLE
Sodium caseinate is the major protein source for the proteolytic organisms. Casein enzymic hydrolysate and yeast extract provide nitrogenous nutrients to the proteolytic organisms. Dextrose is the carbohydrate source. Protelolytic organisms form white or off-white precipitate around the colony. Organisms that are strongly proteolytic can breakdown the precipitate formed around the colonies to soluble components with the formation of an inner transparent zone. For the enumeration of proteolytic psychrotrophic bacteria, inoculated plates should be incubated for 10 days at 7°C.

INSTRUCTION FOR USE
- Dissolve 40.13 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : Cream to yellow homogeneous free flowing powder.

Appearance of prepared medium : Yellow coloured clear to slightly opalescent gel forms in Petri plates.

INTERPRETATION
Cultural characteristics observed after an incubation.

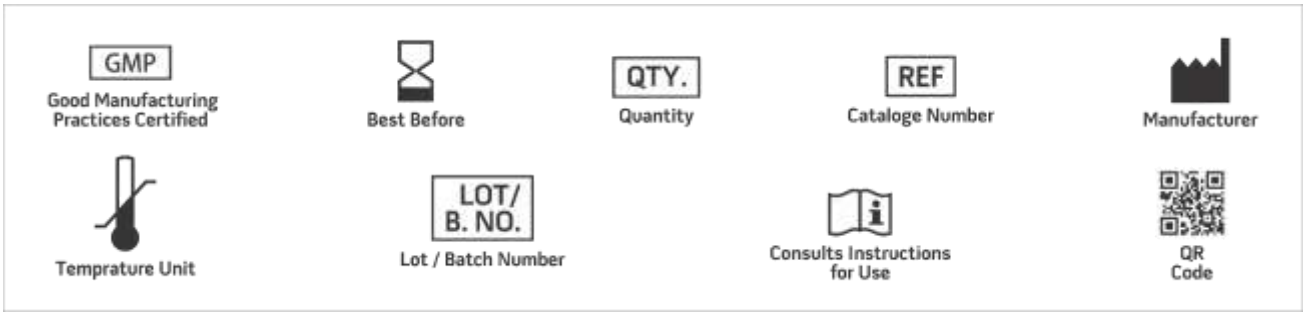
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Proteolytic activity	Incubation Temperature	Incubation Period
Bacillus cereus	11778	50-100	Luxuriant	>=70%	Positive, Opaque or clear zones around colonies	35-37°C	18-24 Hours
Pseudomonas aeruginosa	27853	50-100	Luxuriant	>=70%	Positive, opaque or clear zones around colonies	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Luxuriant	>=70%	Negative, opaque or clear zones around colonies	35-37°C	18-24 Hours

PACKAGING:
In pack size of 100 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
1. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
2. Martley F. G., Jayashankar S. R. and Lawrence R. C., 1970, J. Appl. Bacteriol., 3:363.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
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