

TM 560 – CALCIUM CASEINATE AGAR

INTENDED USE

For detection and enumeration of proteolytic microorganism in food.

PRODUCT SUMMARY AND EXPLANATION

Protein hydrolysis by microorganisms in foods may produce a variety of odour and flavour defects. On the other hand, microbial proteolytic activity may be desirable in certain foods such as in the ripening of cheese, where it contributes to the development of flavour, body and texture. In some foods the level of proteolytic microorganisms may be of value to predict refrigerated storage life and to assess processing methods. Calcium M-Protein Agar is a modification of the original formulation of Frazier and Rupp and is used for the detection and enumeration of proteolytic microorganisms in foodstuffs and other materials.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	4.000
Meat extract	2.000
Tryptone	2.000
Calcium caseinate	3.500
Calcium chloride, 2H ₂ O	0.200
Tri-potassium citrate, H ₂ O	0.350
Disodium hydrogen phosphate	0.105
Potassium dihydrogen phosphate	0.035
Sodium chloride	5.000
Agar	13.000

PRINCIPLE

Tryptone, Peptone and meat extract provides nitrogenous, carbonaceous nutrients along with vitamins and amino acids. Phosphates are added to buffer the medium. Sodium chloride maintains the osmotic equilibrium. Calcinate Protein in the medium is degraded by the proteolytic organisms. This results in formation of clear zones around the proteolytic colonies, in the otherwise opaque medium.

INSTRUCTION FOR USE

- Dissolve 30.19 grams (the equivalent weight of dehydrated medium per litre) in 1000 ml purified/distilled water.
- Heat gently to boiling with frequent shaking for 10 minutes.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix thoroughly while pouring into sterile Petri plates to suspend the precipitate.
- If desired, to increase turbidity, add 5-10 grams of skim milk powder before heating.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Whitish coloured, turbid gel forms in Petri plates.
pH (at 25°C)	: 7.0±0.2



INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Proteolytic activity	Incubation Temperature	Incubation Period
<i>Bacillus cereus</i>	14579	50-100	Good-luxuriant	>=50%	Positive, clear zone surrounding colonies	35-37°C	24-48 Hours
<i>Escherichia coli</i>	25922	50-100	Good-luxuriant	>=50%	Negative, no clear zone surrounding colonies	35-37°C	24-48 Hours
<i>Proteus vulgaris</i>	13315	50-100	Good-luxuriant	>=50%	Negative, no clear zone surrounding colonies	35-37°C	24-48 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Good-luxuriant	>=50%	Positive, clear zone surrounding colonies	35-37°C	24-48 Hours

PACKAGING:

In pack size of 500 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. Frazier W. C. and Rupp P., 1928, J. Bacteriol., 16, 57-63
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.



 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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