

## 21065 Calcium caseinate Agar

Selective agar for the detection and enumeration of protein metabolising microorganisms (proteolytes) in food according to Frazier and Rupp (modified).

### Composition:

Ingredients	Grams/Litre
Meat peptone	4.0
Meat extract	2.0
Casein peptone	2.0
Calcium caseinate	3.5
Calcium chloride dihydrate	0.2
Tripotassium citrate monohydrate	0.35
Disodium hydrogen phosphate	0.105
Potassium dihydrogen phosphate	0.035
Sodium chloride	5.0
Agar	13.5
Final pH 7.0 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: Light yellow coloured, homogeneous, free flowing powder.  
 Gelling: Firm  
 Colour and Clarity: Whitish coloured, turbid gel forms in petri plates.

### Directions:

Dissolve 30.7 g in 1 litre distilled water. Boil gently while frequently shaking until the suspension boils. Boil for 10 minutes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix thoroughly while pouring into sterile petri plate to suspend the precipitate. If desired, to increase turbidity add 5-10 g of skim milk powder before heating.

### Principle and Interpretation:

Calcium Caseinate Agar is modification of the selective agar recommended by Frazier and Rupp (1) for the detection and enumeration of proteolytic microorganisms (proteolytes) in food stuffs and other materials.

If casein is proteolysed then clear zones are built around the colonies in the otherwise opaque medium. Meat peptone, meat extract and casein peptone provide nitrogenous nutrients. Phosphates are added to buffer the medium. Sodium chloride maintains the osmotic equilibrium.

After incubation period, the inoculated plates can be flooded with 5-10% acetic acid for easy observation of clear zones.



Cultural characteristics after 24-48 hours at 35°C.

Organisms (ATCC)	Growth	Proteolytic activity (zone clearing)
<i>Bacillus cereus</i> (11778)	+++	+
<i>Escherichia coli</i> (25922)	+++	-
<i>Proteus vulgaris</i> (13315)	+++	-
<i>Pseudomonas aeruginosa</i> (27853)	+++	+

References:

1. W.C. Frazier, P. Rupp, J. Bact. 16, 57-63 (1928)

**Precautions and Disclaimer**

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

The vibrant M, Millipore, and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. Detailed information on trademarks is available via publicly accessible resources.  
© 2018 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.

