



Starch Milk Agar

M985

Starch Milk Agar is used for the detection of spores in heated milk and milk products.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Yeast Extract	1.500
Beef extract	1.500
Skim milk powder	1.000
Starch, soluble	1.000
Agar	15.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25.0 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 20 minutes. Mix well before pouring into sterile Petri plates.

Principle And Interpretation

The milk secreted in an uninfected cows udder is sterile. Contamination of this milk can occur during milking, cooling and storage (2). Milk is an excellent medium for bacteria, yeast and moulds. Their rapid growth can cause marked deterioration, spoiling the milk for liquid consumption or manufacture into dairy products. Human infection can occur by consumption of such contaminated milk or milk products. Spore-forming bacteria can survive food-processing treatments. In the dairy industry, *Bacillus* and *Clostridium* species determine the shelf-life of a variety of heat-treated milk products, mainly if the level of post-process contamination is low.

Starch Milk Agar is used for the detection of spores in heated milk and milk products (1). It helps in the demonstration of starch hydrolysis and proteolytic activity of spore producing organisms in milk and milk products. Proteolytic bacteria will be surrounded by a clear zone, due to the conversion of casein into soluble nitrogenous compounds (3).

Peptic digest of animal tissue, beef extract and yeast extract are sources of nitrogen and other growth factors. Skim milk powder acts a source of casein while starch serves as an energy source which also neutralizes the toxic metabolites. Agar is the solidifying agent.

Quality Control

Appearance

Cream to yellow coloured homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

M985: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
----------	-------------------	--------	----------

Cultural Response

<i>Bacillus cereus</i> ATCC 10876	50-100	luxuriant	>=70%
<i>Bacillus coagulans</i> ATCC 8038	50-100	luxuriant	>=70%
<i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant	>=70%
<i>Bacillus thuringiensis</i> ATCC 10792	50-100	luxuriant	>=70%

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

- 1.Harrigan W.F., Laboratory Methods in Food Microbiology.
- 2.Collee J. G., Fraser A. G., Marimon B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
- 3.Methods of Microbiological Examination for Dairy Purposes, Diluents, Media and Apparatus and their Preparation and Sterilization, BS4285, Sec. 1.2.

Revision : 02 / 2015

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.