

M17 Agar

Cat. 1318

For the cultivation and enumeration of lactic streptococci in milk and dairy products

Practical information

Applications	Categories
Selective enumeration	Streptococcus

Industry: Dairy products

Principles and uses

M17 Agar is a nutritionally rich medium used for the cultivation and enumeration of fastidious lactic streptococci. It is recommended to isolate *Streptococcus thermophilus* from yogurt and suitable for growing and maintaining starter cultures for cheese and yogurt manufacture.

M17 Agar contains sodium glycerophosphate which has sufficient buffering capacity to maintain the pH above 5,7. Actively growing cultures, as these homofermentative organisms produce large amounts of acid and need a good buffer to maintain the pH above 5,7, thereby guaranteeing the growth conditions of the organisms. This maintenance of the pH is important since a lower pH may cause injury and a reduced recovery of lactic streptococci.

Soy, meat and casein peptones, as well as beef extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is the source of vitamins, particularly of the B-group. Lactose provides the carbohydrate as an energy source. Sodium glycerophosphate increases the buffering capacity of the medium and maintains the pH. Ascorbic acid stimulates the growth of lactic streptococci. Magnesium sulfate provides essential ions for growth. Bacteriological agar is the solidifying agent.

Formula in g/L

Ascorbic acid	0,5	Bacteriological agar	12,75
Beef extract	5	Casein peptone	2,5
Lactose	5	Magnesium sulfate	0,25
Meat peptone	2,5	Sodium glycerophosphate	19
Soy peptone	5	Yeast extract	2,5

Preparation

Suspend 55 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. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50°C, mix well and dispense into plates.

Instructions for use

Inoculate and incubate at 28 - 30°C for 48 hours, or up to 2 weeks if required.

Quality control

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

Microbiological test

Incubation conditions: (28 - 30 °C / 24-48 h)

Microrganisms	Specification
<i>Streptococcus salivarius</i> subsp. <i>thermophilus</i> ATCC 19258	Good growth

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

American Public Health Association, Standard Methods for the examination of water and wastewater Terzaghi, B.E: a, Sandine, WE: Improved medium for lactic streptococci and their bacteriophages