Also known as

Terzaghi Medium.

Specification

Solid selective medium for the enumeration of *Streptococcus thermophilus* in yoghurt samples.

Formula * in g/L

Tryptone	2,50	Magnesium sulfate	0,25
Meat peptone	2,50	Ascorbic acid	0,50
Soya peptone	5,00	Lactose	5,00
Yeast extract	2,50	Agar	15,00
Meat extract	5,00		
Sodium **ß-**glycerophosphate	19,00	Final pH 6,8 ±0,2 at 25 ºC	

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 57.25 g of powder in 1 litre of distilled water and allow it to soak. Bring to the boil. Distribute into suitable containers and sterilize by autoclaving for 15 minutes at 121 º C.

Description

M-17 Agar was developed by Terzaghi and Sandine for detecting lactic streptococci and their bacteriophages in the dairy industry, but later, Shankar and Davies proved its efficacy for the selective isolation of Streptococcus thermophilus in yoghurt.
The effectiveness of the medium is due to its great buffering capacity, facilitating the growth of streptococci while the high concentration of ß-glycerophosphate inhibits the growth of lactobacilli.

Technique

The recommended technique for enumeration of streptococci is the spread plate or pour plate technique, in the latter molten agar is cooled to about 50-55 ° C before adding the sample, and for both, a 24-hour incubation at 42 ° C is carried out. Almost all the colonies that appear in these conditions are streptococci. Longer incubation times or lower temperatures can cause morphological changes in the colonies preventing their identification.
The exact technique of microbiological control, can be found by referring to ISO standards.

Quality control

Incubation temperature: 37ºC ±1,0 **Incubation time:** 48-72h / 5% CO2

Inoculum: Practical range 100±20 CFU. Min. 50 CFU (Productivity) / 10^4-10^6 CFU (Selectivity) according to ISO 11133:2014

Microorganism	Growth	Remarks
Streptococcus thermophillus ATCC® 19258	Good	-
Lactobacillus bulgaricus ATCC® 11842	Inhibited to poor	-

References

·ISO 7889:2003(E) IDF 117:2003 (E) Yogourt- Enumeration of characteristic microrganisms- Colony-count technique at 37ºC.
·ISO 9232:2003(E) IDF 146:2003 (E) Yogourt- Identificcation of characteristic microorganisms (lactobacillus delbruckii subsp. bulgaricus and Streptococcus thermophilus).
·TERAGAZHI, B.E. y SANDINE, W.E. (1975) Improved medium for lactic streptococcaceae phages from cheese factories. Appl. Environm. Microbiol 29:80, 29:807.
·SHANKAR, P.A. y DAVIES, F.L. (1977) Selective Technique for Iogurt Bacteria Enumeration. J. Soc. Dairy Technol. 30:28 CeNAN. (1982) Técnicas para el Analisis Microbiológico de Alimentos y Bebidas. Madrid.
·VANDERZANT & SPLITTSTOESSER (1992) Compendium of Methods for the Microbiological Examination of Foods.3rd. Ed. APHA. Washington. , ATLAS, R.M., L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press, Inc. London.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).

Packaging