

Technical Data Sheet

M 17 Agar acc. to TERZAGHI

Ordering number: 1.15108.0500

Culture medium proposed by TERZAGHI and SANDINE (1975) for the cultivation and enumeration of lactic streptococci in milk and dairy products and for the differentiation of bacteriophages infecting lactic streptococci.

The M 17 medium acc. TERZAGHI is superior to other comparable culture media for the cultivation of the fastidious species *Streptococcus cremoris*, *Streptococcus diacetylactis* and *Streptococcus lactis*. Mutants which are incapable of metabolizing lactose can also be isolated on these media.

Mode of Action

Addition of sodium b-glycerophosphate increases the buffering capacity of the medium; this promotes the growth of lactic streptococci and the development of large bacteriophage plaques.

Typical Composition (g/L)

M 17 Agar acc. to TERZAGHI	
Peptone from soymeal	5.0
Peptone from meat	2.5
Peptone from casein	2.5
Yeast extract	2.5
Meat extract	5.0
Lactose monohydrate	5.0
Ascorbic acid	0.5
Sodium b-glycerophosphate	19.0
Magnesium sulfate	0.25
Agar-agar**	12.75

**Agar-agar is equivalent to other different terms of agar.

Preparation

Suspend 55 g M 17 agar/litre, autoclave (15 min at 121 °C).

pH: 7.2 ± 0.2 at 25 °C.

The prepared medium is clear and brown.

Experimental Procedure and Evaluation

Inoculate the plates.

Incubation: 24-48 hours at 28 °C aerobically.

Colonies of lactose-positive streptococci are clearly visible after 15 hours. Colonies of lactose-positive lactic streptococci have a diameter of 3-4 mm after 5 days while those of lactose-negative mutants have a diameter of less than 1 mm.

Phage infection can be recognized by the presence of large, distinct plaques in the opaque growth of the host bacteria grown on M 17 agar. The phage detection technique is described by TERZAGHI and SANDINE (1975), TERZAGHI (1976), KEOGH (1980), BRINCHMANN et al. (1983) and other authors.

Storage

Store at +15 °C to +25 °C, dry and tightly closed. Do not use clumped or discolored medium. Protect from UV light (including sun light). For *in vitro* use only.

Prepared plates can be stored in the refrigerator (approx. 6-8 °C) for up to 10 days.

Quality Control

Control strains	Growth after 48 h at 28°C, aerobic:
Streptococcus agalactiae ATCC 13813	good / very good
Lactococcus lactis spp. cremoris ATCC 19257	good / very good
Lactococcus lactis spp. lactis ATCC 19435 (WDCM 00016)	good / very good
Enterococcus faecalis ATCC 11700	good / very good
Escherichia coli ATCC 25922 (WDCM 00013)	good / very good
Staphylococcus aureus ATCC 25923 (WDCM 00034)	good / very good
Lactobacillus acidophilus ATCC 4356 (WDCM 00098)	fair / very good
Lactobacillus casei ATCC 393 (WDCM 00100)	fair / good
Lactobacillus fermentum ATCC 9338	fair / good

Please refer to the actual batch related Certificate of Analysis.



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Literature

BRINCHMANN, E., NAMORK, E., JOHANSEN, B.V., a. LANGSRUD, T.: A morphological study of lactic streptococcal bacteriophages isolated from Norwegian cultured milk. - **Milchwirtschaft.**, **38**; 1-4 (1983).

KEOGH, B.P.: Appraisal of media and methods for assay of bacteriophages of lactic streptococci. - **Appl. Environ. Microbiol.**, **40**; 798-802 (1980).

TERZAGHI, B.E.: Morphologies and host sensitives of lactic streptococcal phages from cheese factories. - **N.Z.J. Dairy Sci. Technol.**, **11**; 155-163 (1976).

TERZAGHI, B.E., a. SANDINE, W.E.: Improved medium for lactic streptococci and their bacteriophages. - **Appl. Microbiol.**, **29**; 807-813 (1975).

Ordering Information

Product	Cat. No.	Pack size
M 17 Agar acc. to TERZAGHI	1.15108.0500	500 g

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