

Selective Supplement MUP

Cat. 6074

For the detection of viable Bifidobacteria.

Practical information

Applications	Categories
Detection	Bifidobacterium

Industry: Dairy products

Regulations: ISO 29981

Principles and uses

TOS Propionato Agar is a medium according to ISO 29981 for the direct detection of viable Bifidobacteria. The method is applicable to milk products such as fermented and non-fermented milks, milk powders, infant formulae, and starter cultures where these microorganisms are present and viable, and in combination with other lactic acid bacteria.

Casein peptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Magnesium sulfate allows the detection of small numbers or injured Bifidobacteria. Ammonium sulfate acts as a nitrogen source during growth. Potassium phosphates act as a buffer system. L-Cysteine hydrochloride is the reducing agent. Transgalacto-oligosaccharide (TOS) enhances the growth of bifidobacteria used in dairy products as is a specific growth factor for all bifidobacteria whereas other lactic acid bacteria cannot utilize this saccharide. Sodium propionate inhibits the accompanying flora. The antibiotic, mupirocin lithium salt (MUP), inhibits the growth of most lactic acid bacteria commonly used in fermented and non-fermented dairy products.

Formula per vial

Lithium-Mupirocin (MUP) (mg)	25
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Preparation

Aseptically reconstitute each vial with 5 ml of warm sterile distilled water. Mix gently until complete dissolution and aseptically add 2 vials to 990 ml of TOS Propionato Agar Base (Cat. 2011). Mix well and distribute into sterile containers.

Instructions for use

For the enumeration of preservative Bifidobacteria according to ISO 29981:

- Prepare the initial sample according to the raw material.
- Perform the decimal dilutions
- Inoculate 1 ml of each dilution on empty Petri dishes. Pour 12-15 ml of the prepared propionate TOS medium. Mix the content without incorporating air.
- When the medium solidifies, incubate the plates in an anaerobic incubator at 37 °C for 72±3 h.
- Counting and confirmation of colonies.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Lyophilized tablet	N/A	Slightly white	N/A

Microbiological test

Incubation conditions: (37 °C / 72±3 h).

Microrganisms	Specification	Characteristic reaction
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Bifidobacterium breve ATCC 15700
Streptococcus salivarius subsp. thermophilus ATCC 19258
Lactobacillus casei ATCC 393

Good growth
Total inhibition
Total inhibited

White colonies

Storage

Temp. Min.:2 °C
Temp. Max.:8 °C

Bibliography

ISO 29981/ IDF 220. Milk products – Enumeration of presumptive bifidobacteria – Colony count technique at 37°C (2010).