



Specification

Solid culture medium for the isolation of lactobacilli, according to ISO standards 9332 and 15214 and IFU Methods 5, 7 and 9.

Presentation

20 Prepared Plates
90 mm
with: 20 ± 2 g

Packaging Details

1 box with 2 cellophane bags with 10 plates/bag

Composition

Formula in g/l

Peptone proteose.....	10,00
Meat extract.....	8,00
Yeast extract.....	4,00
D(+)-Glucose.....	20,00
Sodium acetate.....	5,00
Triammonium citrate.....	2,00
Magnesium sulfate.....	0,20
Manganese sulfate.....	0,05
Dipotassium phosphate.....	2,00
Polysorbate 80.....	1,00
Agar.....	14,00

Final pH 6,2 ± 0,2 at 25°C

Description

MRS Agar is a medium used for the cultivation of lactobacilli. It is a modification of a medium based on the highly nutritious properties of tomato juice. The addition of magnesium, manganese and acetate, together with polysorbate, provides an improved medium for the growth of lactobacilli, including very fastidious species such as *Lactobacillus brevis* and *Lactobacillus fermentum*. The quality of the peptones in addition to the meat and yeast extracts, combine all the necessary growth factors that make MRS medium one of the best media for the cultivation of lactobacilli.

As the selectivity of this medium is low and contaminants tend to grow subculturing in a (double layer) solid medium, and then in broth is recommended to increase selectivity. In many cases, growth is encouraged by incubation in a CO₂ enriched atmosphere. MRS medium is particularly recommended for the enumeration and maintenance of lactobacilli either by the MPN technique in broth, (Art. No. 02-135) or by inoculation on a plate, overlaying it with a second layer of molten medium. This technique overcomes the need for a CO₂ enriched atmosphere.

Usage instructions

In the "Basic Techniques" section found in "Handbook of Microbiological Culture Media" Scharlau Microbiology (Ed.N ° .11), the basic principles for the inoculation of culture media is described as a guide for the technician carrying out this procedure for the first time . For plate inoculation follow the laboratories standard methods or the applicable norms (spiral plating method, econometric methods, streak plating, dilution banks, spread plating with drigralsky rod etc ...)

Quality control

Color : yellow

pH: (at 25 °C) 6,2±0,2

Incubation temperature: 35°C ±2,0

Incubation time: 48 h-3 days

Inoculum: 10-100 CFU (Productivity) // 1.000-10.000 CFU (Selectivity). Spiral Plate Method (ISO/TS 11133-1/2)

Microorganism

Growth

Remarks

Escherichia coli ATCC 25922

Partial Inhibition

Incubate in a 5% CO₂ atmosphere

Lactobacillus acidophilus ATCC 4356

Productivity > 0.50

Incubate in a 5% CO₂ atmosphere

Lactobacillus casei ATCC 393

Productivity > 0.50

Incubate in a 5% CO₂ atmosphere

Lactobacillus fermentum ATCC 9338

Productivity > 0.50

Incubate in a 5% CO₂ atmosphere

Sterility Control

No growth within 48 h and 7 days at 20-25°C and 30-35°C

Storage/Shelf Life

Shelf Life	Storage
3 months	8-14°C

Bibliography

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- ISO Standard 9232 (2003) Yoghurt - Identification of characteristic microorganisms (*Lactobacillus delbrueckii* subsp *bulgaricus* and *Streptococcus thermophilus*).
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- ISO Standard 15214 (1998) Horizontal method for the enumeration of mesophilic lactic acid bacteria - Colony count technique at 30°C.
- MAN, J.C. de, ROGOSA, M. & SHARPE, M. Elisabeth (1960) A medium for the cultivation of lactobacilli. J. Appl. Bact.; 23:130.