Condalab

Reference: 4109 **Technical Data Sheet**

Product: **MRS AGAR**

Specification

Solid culture medium for detection, isolation and cultivation of lactobacilli and other lactic acid bacteria from food and beverages according to de Man, Rogosa and Sharpe.

Presentation

	Packaging Details	Shelf Life	Storage
20 Tubes Tube 17 x 145 mm with: 20 ± 0.3 ml	17x145 mm glass tubes, ink labelled, metal-Non injectable cap. - 20 tubes per box .	12 months	8-25 ºC

Composition

Composition (g/l):

Peptone proteose	10.0
Meat extract	8.00
Yeast extract	4.0
D-(+)-Glucose	20.0
Sodium acetate	5.0
Triammonium citrate	2.0
Magnesium sulfate	0.20
Manganese sulfate	0.05
Dipotassium phosphate	2.00
Polysorbate8	1.08
Agar	14.0

Description /Technique

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 CO_2 enriched atmosphere.

Technique:

Collect , dilute and prepare samples and volumes as required according to specifications, directives, official standard regulations and/or expected results.

Melt the medium contained in the tubes in a water bath or in a microwave oven, avoiding overhating, before pouring into Petri dishes when cooled to room temperature.

Once solidified on a flat surface, spread tha plate by streaking methodology or by spiral method. Incubate he plates right side up aerobically at at 30 ±1ºC for 72 ±3h.

(Incubation times greater than those mentioned above or different incubation temperatures may be required depending on the sample, on the specifications...; adequate humidity and presence of carbon dioxide will stimulate the cultures. This medium can be inoculated directly or after enrichment broth like MRS broth, incubated under microaerophilic conditions to promote lactobacilli enrichment)

After incubation, enumerate all the colonies that have appeared onto the surface of the agar.

Each laboratory must evaluate the results according to their specifications.

Calculate total microbial count per ml of sample by multiplying the average number of colonies per plate by the inverse dilution factor if streaked a diluted sample. Report results as Colony Forming Unit (CFU's) per ml or g along with incubation time and temperature.

Quality control

Physical/Chemical control

Color : Yellowish-brown pH: 6.1 ± 0.2 at 25ºC

Microbiological control

Melting - pour plates - inoculation Practical range 100 ± 20 CFU. min. 50 CFU (productivity) / 10^3-10^4 CFU (qualitative selectivity).

Microaerofilic incubation at 30 ±1 ºC for 72 ±3 h

Microbiological control according to ISO 11133:2014/A1:2018.

Microorganism	Growth
Escherichia coli ATCC® 25922, WDCM 00013	Poor to good
Lactobacillus sakei ATCC® 15521	Good (≥70 %)
Lactococcus lactis ATCC® 19435	Good (≥70 %)
Pediococcus pentosaceus ATCC® 33316	Good (≥70 %)

Sterility Control

Incubation 48 hours at 30-35 ºC and 48 hours at 20-25 ºC: NO GROWTH.
Check at 7 days after incubation in same conditions.

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