LICKSON®

CE

TECHNICAL SHEET

M.R.S. AGAR

(ISO 15214 – ISTISAN 96/35)

IVD in Class A, EU Reg. 2017/746
For in vitro diagnostic use **IVD**

Recommended for use in the isolation, enumeration and cultivation of Lactobacillus species.

DESCRIPTION
MRS Agar is based on the formulations of deMan, Rogosa and Sharpe. This medium was shown by the authors to support luxuriant growth of all lactobacilli from oral, fecal, dairy and other sources.

PRINCIPLE
MRS Agar contains peptone and dextrose. These ingredients supply nitrogen, carbon and other elements necessary for growth. Polysorbate 80, acetate, magnesium and manganese provide growth factors for culturing a variety of lactobacilli. The above ingredients may inhibit the growth of some organisms other than lactobacilli.

COMPOSITION	g/L
Proteose Peptone No. 3	10.0
Beef Extract	10.0
Yeast Extract	5.0
Dextrose	20.0
Polysorbate 80 (*)	1.0
Ammonium Citrate	2.0
Sodium Acetate	5.0
Magnesium Sulfate	0.2
Manganese Sulfate	0.05
Dipotassium Phosphate	2.0
Agar	15.0

Final pH 6,4 ± 0,2 at 25°C

WARNING AND PRECAUTIONS
For in vitro diagnostic use.
Observe the precautions normally taken when handling laboratory reagents.
Dehydrated medium: HIGHLY HYGROSCOPIC. During the handling, wear dust protection mask. Avoid the eye contact. Do not use beyond the expiration date or if the product shows signs of deterioration, an altered color or has compacted.
Prepared Medium: The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous.
Safety Data Sheet is available on request for professional users.
All wast must be disposed of according to local directives.

STORAGE AND STABILITY	
Dehydrated medium:	10-30°C
Prepared medium:	10-25°C

The product is stable until the expiration date indicated on the label under the recommended storage conditions.

PREPARATION
Dehydrated medium: Suspend 70.2 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil shaking frequently until completely dissolved. Add 1 mL of Tween 80 (*Solution included in the package). Sterilize in autoclave at 121°C for 15 minutes.
Prepared medium (bottles): Melt the content of the bottle in a water bath at 100°C until completely dissolved. Then screw the cap and check the homogeneity of the dissolved medium, if it is the case turning the bottle upside down. Cool at 45-50°C, mix well avoiding foam formation and aseptically distribute into Petri dishes.

PROCEDURE
1. To obtain direct counts of lactobacilli, pour 15-20 mL sterile, molten (45-50°C) MRS Agar into sterile Petri dishes containing 1 mL volumes of diluted test sample.
2. Distribute the inoculum throughout the medium by rotating the plate in one direction and then in the reverse direction.
3. Allow the medium to solidify on a flat surface for 5-10 minutes.
4. Alternatively, plates of MRS Agar can be used for direct recovery of organisms using the streak inoculation technique.
5. Incubate agar plates at 35 ° C for 3 days, or at 30 ° C for 5 days, in an aerobic atmosphere supplemented with carbon dioxide.

RESULTS
Lactobacilli appear as large, white colonies embedded in or on MRS Agar.

QUALITY CONTROL
Dehydrated medium: Light tan, free-flowing, homogeneous.
Prepared medium: Medium amber, very slightly to slightly opalescent.

Typical response after incubation at 35±2°C for 24-72 hours, in a 5% CO_2 atmosphere:

MICROORGANISM	GROWTH
Lactobacillus delbrueckii subsp. lactis ATCC 7830	Good
Lactobacillus fermentum ATCC 9338	Good
Lactobacillus johnsonii ATCC 11506	Good

REFERENCES

1. deMan, Rogosa and Sharpe. 1960. J. Appl. Bacteriol. 23:130.
2. Murray, Baron, Jorgensen, Landry and Pfaller (ed.). 2007. Manual of clinical microbiology, 9th ed. American Society for Microbiology, Washington, D.C.
3. Downes and Ito(ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
4. NF ISO 15214. Sept. 1998. Microbiology of food and animal feeding stuffs. Horizontal method for the enumeration of mesophilic lactic acid bacteria. Colonycount technique at 30°C.
5. ISTISAN 96/35.

PRESENTATION	Packaging	REF.
Dehydrated medium:		
M.R.S. AGAR		
	500 g (7.2 L)	**10224**
	+ (1 x 8 mL bottle of Tween 80)	
Prepared medium:		
M.R.S. AGAR		
	6 x 100 mL bottles	**63324**
	20 pcs (90 mm ready-to-use plates)	**2104660/20**
	20 pcs (60 mm ready-to-use plates)	**3521412/20**

SYMBOLS

Read the instructions
Biological hazard
CE Mark (product complies with the requirements of Regulation (EU) 746/2017)
Temperature limitation
Use by
For in vitro diagnostic use
Manufacturer

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