Technical Data Sheet

de Man, Rogosa and Sharpe (MRS) Broth – 2mL Liquid Media Ampoules
Cat. No. MHA00MRS2

This medium is recommended for detection of Lactobacillus contamination in beverages.

Mode of Action
MRS Broth is used for the enrichment, cultivation and isolation of all species of Lactobacillus. It is a medium supporting good growth of lactobacilli in general, even those strains which have shown poor growth in existing media, like strains of L. brevis and L. fermenti. The MRS culture media contains polysorbate, acetate, magnesium and manganese which are known to act as special growth factors for Lactobacilli as well as a rich nutrient base of peptone and beef extract. As these media show a very low degree of selectivity Pediococcus and Leuconostoc species as well as other secondary bacteria may grow on them. Lactobacillus species appear as small, white, creamy colonies. Saccharomyces species appear as large, white creamy colonies.

Typical Composition (per liter of purified water)

Proteose Peptone #3	10.0 g	Magnesium Sulfate	0.1 g
Beef Extract	10.0 g	Manganous Sulfate	0.05 g
Yeast Extract	5.0 g	Polysorbate 80	1.0 g
Dextrose	20.0 g		
Dipotassium Phosphate	2.0 g		
Sodium Acetate	5.0 g		
Ammonium Citrate	2.0 g		

Application
1. Collect the sample in a sterile container. The sample should be a 100 ml minimum.
2. Invert one MRS Broth ampoule 2 to 3 times. Open the ampoule. Remove the lid of a petri dish and carefully pour the contents equally onto the absorbent pad.
3. Set up the membrane filtration apparatus. Use sterile forceps to put the membrane filter in the assembly. The grid side is up.
4. Invert the sample / diluted sample for approximately 30 seconds to thoroughly mix the sample.
5. Pour the sample / diluted sample into the funnel. If the volume is less than 20ml, add 10 ml of sterile buffered dilution water to the funnel.
6. Apply the vacuum until the funnel is empty. Then stop the vacuum.
7. Rinse the funnel with 20ml to 30ml of sterile buffered dilution water. Apply the vacuum. Rinse the funnel two more times.
8. Stop the vacuum when the funnel is empty. Remove the funnel from the assembly. Use sterile forceps to lift the membrane filter.
9. Put the membrane filter on the absorbent pad. Let the membrane filter bend and fall equally across the absorbent pad to make sure that the air bubbles are not trapped below the filter.
10. Secure the lid on the petri dish and invert the dish.
11. Incubate the inverted petri dish for 48-72 hours at 33-37° C in an anaerobic atmosphere.
12. Remove the petri dish from the incubator. Use a microscope to count the number of bacteria colonies on the membrane filter.
13. Interpret and report the results.

Results Reporting
Report the colony density as the number of colonies in 100ml of sample. If there's more than 200 colonies, dilute the sample and use the diluted sample in the test procedure.

Colonies in 100ml = Colonies counted / ml of sample x 100**.**

Storage and Shelf Life
The product can be used until the expiry date if the unopened ampoules are stored sealed in the aluminum foil bag at 2 – 10°C.

Disposal
Please dispose of used culture medium in accordance with local regulations (e.g. autoclave for 20 min at 121 °C, disinfect, incinerate etc.).

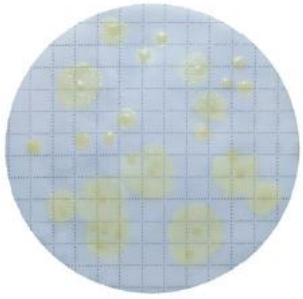
Quality Control

Function	Control Strains	Incubation	Reference Medium	Method of Control	Expected Results
Productivity	*Lactobacillus casei* ATCC® 393 WDCM 00100	48 - 72 hours at 33-37° C in anaerobic atmosphere	Previously validated batch of MRS Broth	Quantitative	Recovery 85-115% Characteristic colonies
	Saccharomyces cerevisiae ATCC® 9763 WDCM 00058				Recovery 85-115% Characteristic colonies

Please refer to the actual batch specific certificate of analysis.

Lactobacillus colonies formed are small, white and creamy.
Saccharomyces colonies formed are large, white and creamy.

de Man, Rogosa and Sharpe (MRS) Broth



MHA00MRS2

Ordering Information

Product	Cat. No.	Pack size
de Man, Rogosa and Sharpe (MRS) Broth	MHA00MRS2	50 x 2 mL plastic ampoules

Literature

A medium for the cultivation of lactobacilli De Man, JC and Rogosa, d M and Sharpe, M Elisabeth The Journal of Applied Bacteriology 23(1), 130-135, (1960)

Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore MacFaddin JF The Journal of Applied Bacteriology 23(1), 130-135, (1985)

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