

# M.R.S. Broth

Formula developed by Man, Rogosa and Sharpe to facilitate the growth of lactobacilli in general

## Formula in grams per liter:

Dextrose	20,00	Bacteriological Peptone	10,00
Beef Extract	8,00	Sodium Acetate	5,00
Yeast Extract	4,00	Disodium Phosphate	2,00
Ammonium Citrate	2,00	Polysorbate 80 (Tween 80)	1,00
Magnesium Sulfate	0,20	Manganese Sulfate	0,05

Final pH: 6,2 ± 0,2 at 25 °C

## Preparation:

Suspend 52 grams of the medium in one liter of distilled water. Mix well and heat agitating frequently until complete dissolution of the medium. Dispense in adequate containers and sterilize in autoclave at 121°C (15 lbs.sp) for 12 minutes.

## Uses:

This medium is selective for Lactobacilli. Times and temperatures of incubation are the same as MRS Agar (37°C for 3 days or better, 30°C for 5 days). Tubes showing growth are subcultured to MRS Agar to confirm the presence of lactobacilli. MRS Broth may be used for test in the identification of Lactobacilli, such as temperature dependence, growth in 4% NaCl, growth in 0,4% Teepol, etc. as recommended by Sharpe, Fryer and Smith.

## Microbiological Tests:

Microorganisms	Growth
<i>Lactobacillus acidophilo</i> ATCC 4356	Good
<i>Lactobacillus casei</i> ATCC 393	Good
<i>Lactobacillus fermentum</i> ATCC 9338	Moderate-Good
<i>Escherichia coli</i> ATCC 25922	Moderate-Good
<i>Pseudomonas aeruginosa</i> ATCC 27853	Inhibited

