



## MRS-Agar

Version: 07/2022  
M&S item numbers: 4061 (25 x 20 ml) and 5061 (4 x 250 ml)  
Profile: Glass tubes and polycarbonate bottles  
Color: Beige  
Storage: Dark and dry at 4 – 12 °C  
Shelf life: 8 months after production

### Description and application range

MRS-Agar (acc. to De Man, Rogosa and Sharpe, 1960) is used for the determination and colony count of lactobacilli in beverages and foodstuffs. The growth of lactobacilli is known to be supported specifically by Magnesium, Manganese, Acetat and Polysorbate. Due to the low selectivity of this medium also non-lactobacilli are able to develop. The medium is manufactured and quality tested in compliance with ISO 11133:2014 + Amd. 2:2020 standard.

### Typical composition

Enzymatic digest of casein	10.0 g/l
Meat extract	8.0 g/l
Yeast extract	4.0 g/l
Dextrose	20.0 g/l
Sodium acetate	5.0 g/l
Di-potassium hydrogen phosphate	2.0 g/l
Di-ammonium hydrogen citrate	2.0 g/l
Magnesium sulfate	0.2 g/l
Manganese sulfate	0.02 g/l
Tween 80	1.0 g/l
Bacteriological Agar	15.0 g/l

Final pH: 5.7 ± 0.2 at 25 °C

### Microbiological quality control

#### Bacterial contamination

Incubation: aerobically at room temperature for 3 days, specification: no growth



**Productivity** quantitative analysis

Incubation: microaerophilic at  $30 \pm 1$  °C for  $72 \pm 3$  h, approx. inoculum: 50 – 120 CFU

Microorganism	Test strain	Specification	Appearance
<i>Lactobacillus sakei</i>	WDCM 00015	$P_R \geq 0.7$	Beige colonies
<i>Lactobacillus lactis</i>	WDCM 00016	$P_R \geq 0.7$	Beige colonies
<i>Pediococcus pentosaceus</i>	WDCM 00158	$P_R \geq 0.7$	Beige colonies
<i>Pediococcus damnosus</i>	DSM 20331	Growth	Beige colonies
<i>Lactobacillus plantarum</i>	DSM 20205	Growth	Whitish colonies
<i>Lactobacillus lindneri</i>	DSM 20690	Growth	Beige colonies
<i>Leuconostoc mesenteroides</i>	ATCC 8293	Growth	Beige colonies
<i>Enterococcus faecalis</i>	WDCM 00009	Moderate Growth	Beige colonies
<i>Acetobacter aceti</i>	DSM 2002	Growth	Brownish colonies

$P_R$  productivity rate (recovery rate)

**Selectivity** qualitative analysis

Incubation: microaerophilic at  $30 \pm 1$  °C for  $72 \pm 3$  h, approx. inoculum: 10,000 – 1,000,000 CFU

Microorganism	Test strain	Specification	Appearance
<i>Escherichia coli</i>	WDCM 00012	Weak growth	Weak growth