

## Lactose-Broth

Version:	01/2020
M&S item numbers:	5130 (25 x 50 ml, single concentrated, with Durham - tube) 5040 (4 x 100 ml in 250 ml – bottles, double concentrated, with Durham – tube) 5044 (4 x 250 ml, 6 – fold concentrated, without Durham – tube)
Color:	Violet
Storage:	Dark and dry at 4 – 12 °C
Shelf life:	8 months

### Description and application range

Lactose-Broth is used for the enrichment and the detection of *E. coli* and coliforms from water and other samples (see Mineral- und Tafelwasserverordnung (mineral- and table water regulation)). *E. coli* and coliforms are able to ferment the carbon source Lactose. During this process acidic metabolites and CO<sub>2</sub> are formed. Due to the acids the pH – value of the medium drops down causing a color change of the pH – indicator bromocresolpurple from purple to yellow. The formation of CO<sub>2</sub> is detected with the Durham – tube, in which the gas is collected. The medium is manufactured and quality tested in compliance with ISO 11133:2014 + Amd 1:2018 standard.

### Typical composition

Enzymatic digest of animal tissues	10.0 g/l
Meat extract	3.0 g/l
Lactose	10.0 g/l
Sodium chloride	5.0 g/l
Bromocresolpurple	0.04 g/l

Final pH: 7.0 ± 0.2 at 25 °C

### Microbiological quality control

#### Bacterial contamination

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

#### Productivity qualitative analysis

Incubation: aerobically at 37 ± 1 °C for 24 ± 2 h, approx. inoculum: 80 – 120 CFU

Microorganism	Test strain	Specification	Appearance
<i>Escherichia coli</i>	WDCM 00012	Turbidity (2), formation of pea-sized gas in Durham tube	Color change from violet to yellow, formation of gas
<i>Enterobacter aerogenes</i>	WDCM 00175	Turbidity (2), formation of much gas in Durham tube	Color change from violet to yellow, formation of gas

**Selectivity** qualitative analysis

Incubation: aerobically at  $37 \pm 1$  °C for  $24 \pm 2$  h, approx. inoculum: 10,000 – 1,000,000 CFU

Microorganism	Test strain	Specification
<i>Enterococcus faecalis</i>	WDCM 00009	Color change from violet to yellow, no gas
<i>Pseudomonas aeruginosa</i>	WDCM 00024	Growth, no color change, no gas



- 1 – positive: *E. coli*
- 2 – positive: *Enterobacter aerogenes*
- 3 – negative: growth, but no color change
- 4 – negative: color change, but no formation of gas
- 5 – not inoculated