



## Lactose-Broth (DEV)

Version: 07/2022  
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 after production

### 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 German 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. 2:2020 standard.

### Typical composition (single concentrated)

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

Microorganism	Test strain	Specification	Appearance
<i>Escherichia coli</i>	WDCM 00012/00013	Turbidity, formation of pea-sized gas in Durham tube	Turbidity, color change from violet to yellow, formation of pea-sized gas
<i>Klebsiella aerogenes</i>	WDCM 00175	Turbidity, formation of much gas in Durham tube	Turbidity, color change from violet to dark-yellow, formation of much gas
<i>Enterobacter cloacae</i>	WDCM 00083	Turbidity, formation of much gas in Durham tube	Turbidity, color change from violet to yellow, formation of much 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	Appearance
<i>Enterococcus faecalis</i>	WDCM 00009	Growth, color change, no gas	Color change from violet to yellow, no gas formation
<i>Pseudomonas aeruginosa</i>	WDCM 00024	Growth, no color change, no gas	No color change, no gas formation



- 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