BacterLab Division

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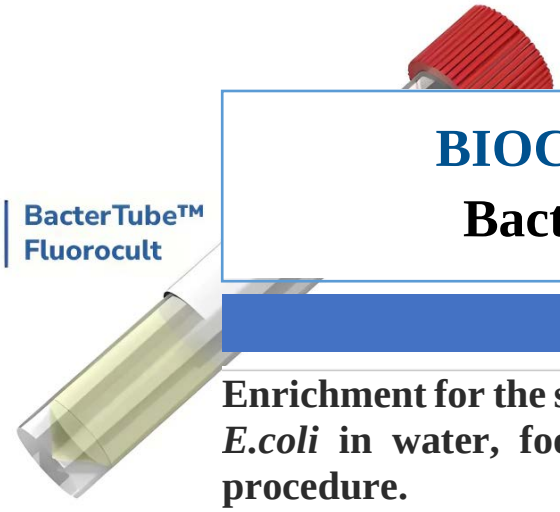

BIOCHEMICAL MEDIUM

BacterTube™ Fluorocult

Enrichment for the simultaneous detection of total *coliforms* and *E.coli* in water, food and dairy products by the fluorogenic procedure.

Code: 08048

1. INTENDED USE

BacterTube™ Fluorocult Enrichment for the simultaneous detection of total *coliforms* and *E.coli* in water, food and dairy products by the fluorogenic procedure.

2. PRINCIPLES

BacterTube™ Fluorocult contains phosphate buffer to guarantee a high growth rate for total *coliforms*. Lauryl sulfate inhibits most of the accompanying Gram-positive bacteria. By adding the chromogenic substrate 5-bromo-4-chloro-3-indolyl-ß-D-galactopyranoside, which is cleaved by *coliforms*, and the fluorogenic substrate 4-methylumbelliferyl-ß-D-glucuronide, which is highly specific for *E. coli*, both total *coliforms* and *E. coli* can be detected simultaneously. The color change of the medium from yellow to blue indicates the presence of *coliforms*. Additionally, blue fluorescence under long-wavelength ultraviolet light enables rapid detection of *E. coli*. When tryptophan is added to the broth, the indole reaction is easily performed by adding Kocavs reagent. The formation of a red ring further confirms the presence of *E. coli*. The enzyme synthesis process is amplified by 1-isopropyl-ß-D-1-thio-galactopyranoside, which increases the activity of ß-D-galactosidase.

3. TYPICAL COMPOSITION

For 1 liter of medium

Tryptose	5,0 g
Sodium Chloride	5,0 g
Sorbitol	1,0 g
Tryptophan	1,0 g
Dipotassium hydrogen phosphate	2,7 g
Potassium dihydrogen phosphate	2,0 g
Lauryl sulfate sodium salt	0,1 g
5-bromo-4-chloro- 3-indolyl-ß-D-galactopyranoside (X-GAL)	0,08 g
4-methylum- belliferyl-ß-D-glucuronide (MUG)	0,05 g
1-isopropyl-ß-D-1- thio-galactopyranoside (IPTG)	0,1 g

pH of the ready-to-use medium at 25°C: 6,8 ± 0,2

4. PREPARATION

- The environmental tubes are ready-to-use, no preparation required.

5. INSTRUCTIONS FOR USE

- Incubation: 18 – 24 hours at a temperature of 36 ± 1.0°C under aerobic conditions. If incubated at room temperature (+20 to +25°C), the incubation time may extend up to 48 hours.
- Observe and record the results

6. RESULTS

- *Coliforms*: The color of the broth changes to blue.
- *E. coli*: The broth turns blue and exhibits blue fluorescence under long-wave UV light (366 nm). Adding Kovacs reagent for the indole test results in a red ring, which also confirms the presence of *E. coli*.

7. QUALITY CONTROL

BacterLab ensures the quality of each product batch by testing with ATCC reference strains.

Reference strains	**The medium turns blue**	**Fluorescence**	**Indole reaction**
Culture conditions: 18 – 24 hours, incubated at 35 – 37°C, inoculum ≤ 10^2 CFU/mL, aerobic			
Escherichia coli ATCC 25922	+	+	+
Klebsiella pneumoniae ATCC 31488	+	-	-
Pseudomonas aeruginosa ATCC 10145	+	-	-

8. STORAGE AND TRANSPORT CONDITIONS

- Storage: 2 – 8°C.
- Transportation: Ambient temperature.

9. PACKAGING

- Packaging: 50 tubes/ box or as per customer request.

10. SHELF LIFE

- Expiration Date: 6 months from the manufacturing date.

11. BIBLIOGRAPHY

- HAHN, G., WITTROCK, E.: Comparison of chromogenic and fluorogenic substances for differentiation of Coliforms and Escherichia coli in soft cheeses. Acta Microbiologica Hungarica, 38(3-4); 265-271 (1991).
- MANAFI, M.: Schnellnachweis von Bakterien mittels fluorogener und chromogener Substrate. Forum Städte-Hygiene, 41; 181-184 (1990).
- MANAFI, M., KNEIFEL, W.: Ein kombiniertes Chromogen-Fluorogen-Medium zum simultanen Nachweis der Coliformengruppe und von E. coli in Wasser. Zbl. Hygiene und Umweltmedizin, 189; 225-234 (1989).