

A 1 Medium

Selective culture medium for the detection of faecal coliforms in water.

The medium conforms with the recommendations of standard methods (US-EPA) for the examination of water.

Mode of Action

Peptone from casein, lactose and salicin are nutrients and guarantee good growth of microorganisms. Sodium chloride provides the osmotic balance. Triton® X 100 is contained as a detergent.

Typical Composition (g/litre)

Peptone from casein 20.0; lactose 5.0; sodium chloride 5.0; salicin 0.5; Triton® X 100 1.0 ml

Preparation

Completely dissolve 31.5 g in 1 litre demin. water and fill into tubes containing inverted fermentation vials (Durham-tubes). Autoclave for 10 min. at 121°C

pH : 6.9 ± 0.2 at 25°C

The prepared medium is clear to slightly opalescent and yellowish in colour. The prepared medium can be stored for up to 1 week at room temperature (store in the dark).

For the examination of 10 ml water samples a double-strength concentrated broth is used.

Experimental Procedure

1. Inoculate tubes according to the Standard Methods MPN-Method.
2. Incubate for 3 hours at 35 ± 0.5°C and then continue incubation in a water bath at 44.5 ± 0.2 °C for 21 ± 2hours

The water level in the bath must be above the level of the liquid in the test tubes!!!

Evaluation

Gas formation in the Durham tubes indicates the presence of faecal coliforms.

The number of faecal coliforms is determined using the MPN-table.

Literature

Andrews, W. H., Pressnell, M. W. 1972. Rapid Recovery of *Escherichia coli* from estuarine water. *Appl. Microbiol.* **23**:521-523.

Andrews, W. H., Diggs, C. D., and Wilson, C. R. 1975. Evaluation of a medium for the rapid recovery of *Escherichia coli* from shellfish. *Appl. Microbiol.* **29**: 130-131.

Standridge and Delfino. 1981. *Appl. Environ. Microbiol.* **42**: 918

Eaton, A. D., Clesceri, L. S. and Greenberg, A. E. (ed.). 1995. Standard methods for the examination of water and wastewater, 19th. Ed. APHA, Washington D.C.

Vanderzant, C., and Splittstoesser, D. F. (ed.). 1992. Compendium of methods for the microbiological examination of food, 3rd ed. APHA Washington D.C.

Association of Official Analytical Chemists. 1995. Bacteriological analytical manual, 8th ed. AOAC International, Gaithersburg, MD

Ordering Information

Product	Merck Cat. No	Pack size
A 1 Medium	1.00415.0500	500 g



Escherichia coli



Uninoculated tube

Quality control

Test strains	Inoculum approx. CFU	Growth	Gas formation
<i>Escherichia coli</i> ATCC 25922	100	good/very good	+
<i>Escherichia coli</i> ATCC 8739	100	good/very good	+
<i>Enterococcus faecalis</i> ATCC 19433	100	none / medium	none
<i>Enterobacter aerogenes</i> ATCC 13048	100	none / medium	+/-
<i>Bacillus subtilis</i> ATCC 6633	100	none	none
<i>Aeromonas hydrophila</i> ATCC 7966	100	none	none