

## Specification

Selective and differential medium for coliform enumeration by membrane filter technique.

## Presentation

	Packaging Details	Shelf Life	Storage
30 Prepared Plates 55 mm Plates for filtration purposes with: $9 \pm 1$ ml	1 box containing: 5 plastic bags with 6 plates of 55 mm/ bag.	6 months	2-25°C

## Composition

Composition (g/l):

Tryptose.....	10.0
Yeast extract.....	3.0
Proteose peptone.....	5.0
Bile salts.....	4.5
Sodium chloride.....	5.0
Lactose.....	12.5
Aniline blue.....	0.1
Agar.....	15.0
Sol 1% Rosolic ac.....	10 ml

## Description /Technique

### Description:

FC Agar and Broth are formulated according to Geldreich et al., to detect the faecal coliforms in polluted water. The bile salts included in these media make these media selective for enterobacteria, and also selective for coliforms due to the high temperature of incubation:  $44.5^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ .

Freshly prepared medium has a red-garnet colour. Faecal coliform colonies are greenish-blue, and the medium also turns to this colour. In case of other bacteria, when they grow, show red colonies, and then the medium turns to red.

### Technique:

Essentially, the technique consists of filtering the test sample to be examined through a membrane filter of suitable porosity ( $0.22 - 0.45 \mu\text{m}$ ), assisting the filtration by pressure or suction, so that the microorganisms are retained on the membrane. Remove the membrane carefully and aseptically and take it to the culture medium. Put the membrane over the agar, if using the solid medium, or over the impregnated pad if using the liquid version. Cover the Petri plates and incubate them at  $36 \pm 2^{\circ}\text{C}$  for 18-24 hours. After incubation, proceed with the counting of coliforms. Should a total *E.coli* selectivity be desired, incubate at  $44.5^{\circ}\text{C} \pm 0,5$ .

## Quality control

### Physical/Chemical control

Color : Red / Garnet      pH:  $7.4 \pm 0.2$  at  $25^{\circ}\text{C}$

### Microbiological control

Membrane Filtration /Practical range  $100 \pm 20$  CFU; Min. 50 CFU (Productivity)./ $10^4$ - $10^6$  CFU for Selectivity.  
Aerobiosis. Incubation at  $36 \pm 2^{\circ}\text{C}$ , reading at 18-24 h

### Microorganism

*Escherichia coli* ATCC® 25922, WDCM 00013  
*Enterococcus faecalis* ATCC® 29212, WDCM 00087  
*Escherichia coli* ATCC® 8739, WDCM 00012  
*Salmonella typhimurium* ATCC® 14028, WDCM 00031

### Growth

Good ( $\geq 50\%$ ) Blue colonie  
Inhibited  
Good ( $\geq 50\%$ ) Blue colonie  
Good - Red colonies

### Sterility Control

Incubation 48 hours at  $30$ - $35^{\circ}\text{C}$  and 48 hours at  $20$ - $25^{\circ}\text{C}$ : NO GROWTH  
Check at 7 days after incubation in same conditions

**Bibliography**

- GELDREICH, E.E., H.F. CLARK, C.B. HUFF y L.C. BEST, (1965). Fecal-coliform-organism medium for the membrane filter technique. J. Am. Water Works Association (J.A.W.W.A.), 57:208-214.
- APHA-AWWA-WEF (1995) Standard Methods for the examination of water and wastewater. 19th ed. APHA. Washington.
- CLESCERI, L.S., A.E. GREENBERG y A.D. EATON., (1998). Standard Methods for the examination of Water and Wastewater. 20th ed. APHA . Washington.

DOMINIQUE DUTSCHER SAS