

mEC Broth with Novobiocin

For the selective enrichment of enterohemorrhagic *E. coli* (EHEC) in foods.

The culture medium complies with the requirements of the USDA-FSIS method for the isolation and identification of *Escherichia coli* O157:H7 from meat.

Mode of Action

The nutrient substrates contained in mEC Broth provide favourable growth conditions. Especially lactose improves proliferation of lactose-positive bacteria. The mixture of bile salts No. 3 and Novobiocin suppresses the growth of Gram-positive microbial flora.

Typical Composition (g/litre)

Peptone 20.0; sodium chloride 5.0; bile salts No. 3 1.12; lactose 5.0; di-potassium hydrogen phosphate 4.0; potassium dihydrogen phosphate 1.5; novobiocin 0.02.

Preparation

Suspend 36.7 g in 1 litre of demin. water; autoclave (15 min at 121 °C).

pH: 6.9 ± 0.2 at 25 °C.

The prepared broth is clear and yellow-orange. The broth is stable for up to 6 months when stored at +2 to +8 °C.

Experimental Procedure and Evaluation

Inoculate mEC Broth with the sample material (usually add 25 g test portion of the sample to 225 ml of broth).

Incubation: 18 to 24 h at 37 °C or 41.5 °C. Incubation temperature depends on standard used. Afterwards about 0.1 ml of the broth is streaked on the dry surface of a *E. coli* O157:H7 Selective Agar, e.g. Fluorocult® *E. coli* O157:H7 Agar, SMAC Agar or CT-SMAC Agar in a way that single colonies can be well isolated.

Quality control

Test strains	Growth	Singlepath® <i>E. coli</i> O157
<i>E. coli</i> O157:H7 ATCC 35150 (O157)	good	+
<i>E. coli</i> ATCC 11775	fair / good	-
<i>Proteus vulgaris</i> ATCC 13315	good inhibition	
<i>Pseudomonas aeruginosa</i> ATCC 27853	good inhibition	
<i>Enterococcus faecalis</i> ATCC 33186	good inhibition	

Literature

OKREND, A.J.G., ROSE, B.E., a. BENNETT, B.: A research not: A screening method for the isolation of *Escherichia coli* O157:H7 from ground beef. - *J. Food Prot.*, **53**: 249-252 (1990).

USDA-FSIS, Revision 4 of Laboratory Communication #38 Protocol for Isolation and Identification of *Escherichia coli* O157:H7. - Amelia K. Sharar and Bonnie E. Rose, (1996).

Ordering Information

Product	Merck Cat. No.	Pack size
mEC Broth with Novobiocin	1.14582.0500	500 g
CT-Supplement	1.09202.0001	1 x 16 vials
Fluorocult® <i>E. coli</i> O157:H7 Agar	1.04026.0500	500 g
Sorbitol-MacConkey Agar	1.09207.0500	500 g
Singlepath® <i>E. coli</i> O157	1.04141.0001	25 tests