70137 ENDO Agar (Base)

A selective medium for the differentiation of lactose fermenting and lactose non-fermenting intestinal organisms according to Endo (1904). A standard method for the examination of drinking water and waste water, dairy products and foodstuffs.

Composition:

Ingredients	Grams/Litre
Peptone	10.0
Lactose	10.0
di-Potassium hydrogen phosphate	3.5
Sodium sulphite	2.5
Agar	15.0
Final pH 7.5 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:
Suspend 41 g in 1 litre of distilled water. Add 4 ml of 10% w/v alcoholic solution (96% ethyl alcohol) of basic fuchsin (47860). Heat to boiling until completely dissolved. Sterilize by autoclaving at 121°C for 15 minutes. Mix well before pouring into plates.

Principle and Interpretation:
Sodium sulfite and fuchsin have an inhibitory effect on gram-positive bacteria. Lactose fermenting *E. coli* and coliform bacteria produce aldehyde and acid. The aldehyde liberates fuchsin from the fuchsin-sulfite compound, the fuchsin then colours the colonies and the surrounding medium red. In the case of *E. coli*, this reaction is so intense that the fuchsin crystallizes out giving the colonies a permanent greenish metallic sheen (fuchsin sheen). Non-lactose fermenters and weakly lactose-positive *E. coli* do not show a fuchsin sheen. They form colourless translucent colonies.

Cultural characteristics after 18-24 hours at 35-37°C.

Organisms (ATCC)	Growth	Appearance of Colony
Enterobacter aerogenes (13048)	+++	pink, mucoid
Escherichia coli (25922)	+++	pink to rose red with metallic sheen
Salmonella typhi (6539)	+++	colorless to pale pink
Shigella sonnei (25931)	+++	colorless to pale pink
Klebsiella pneumonia (13883)	+++	pink, mucoid
Proteus vulgaris (13315)	+++	colorless to pale pink
Pseudomonas aeruginosa (27853)	+++	colorless, irregular
Enterococcus faecalis (29212)	+/-	pink, small
Staphylococcus aureus (25923)	-	-

References:
1. S. Endo, Über ein Verfahren zum Nachweis von Typhusbacillen, Centralbl. Bakt. I. Orig., 35, 109 (1904)
2. G. Naundorf, N.G. Aumen, The assessment of ammonia-induced cell envelope injury in E. coli and Enterobacter aerogenes, Can. J. Microbiol. 36, 525(1990)
3. American Public Health Association, American Water Works Association and Water Pollution Control Federation, Standard Methods for the Examination of Water and Wastewater, 20th ed., Washington, (1998)
4. Levin and Schoenlein, A Compilation of Culture Media for the Cultivation of Microorganisms, Williams and Wilkins, Baltmore (1930)
5. American Public Health Association, Standard Methods for the Examination of Dairy Products, 14th ed. APHA Inc. Washington DC (1978)
6. E. Windle Taylor, The Examination of Waters and Water Supplies, 7th ed., Churchill Ltd., London, 417, 440, 780 (1958)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.