

# m-Endo Agar LES

m-ENDO Agar LES is a medium for the enumeration of coliforms in water used in the Standard Total Coliform Membrane Filter Procedure in the Standard Methods for the Examination of Water and Wastewater. It follows the two-step membrane filter procedure using Lauryl Sulfate Broth as a preliminary enrichment, resulting in higher coliform counts.

## Mode of Action

Growth of coliform bacteria is promoted by the selection of versatile nutrient bases. The accompanying flora is inhibited by lauryl sulfate and deoxycholate. Lactose-positive colonies are coloured red due to the liberation of fuchsin from fuchsin-sulfite compound; *E. coli* colonies have a metallic sheen.

## Typical Composition (g/litre)

Yeast extract 1.2; casein hydrolysate 3.7; peptone from meat 3.7; tryptose 7.5; lactose 9.4; di-potassium hydrogen phosphate 3.3; potassium hydrogen phosphate 1.0; sodium chloride 3.7; sodium deoxycholate 0.1; sodium lauryl sulfate 0.05; sodium sulfite 1.6; pararosanilin (fuchsin) 0.8; agar-agar 15.0.

## Preparation

Suspend 51 g in 1 litre of distilled or deionized water containing 20 ml of ethanol 96 % and heat to boiling to dissolve completely. Do not autoclave! Cool to 45-50 °C. Dispense 4 ml amounts into Petridishes (Ø 50-60 mm) and allow to solidify. Cool to 50°C and pour plates.

pH: 7.2 ± 0.2 at 25 °C.

The plates are opalescent and red.

## Experimental Procedure

1. Prepare Lauryl Sulfate Broth according to label instructions.
2. Prepare m-ENDO Agar LES according to label instructions in 50-60 mm Petridishes and allow to solidify.
3. Invert plate and place membrane filter pad in the lid and add 1.8-2.0 ml Lauryl Sulfate Broth to each pad. Remove any excess liquid.
4. Using a rolling motion apply membrane filter, through which a water sample has been filtered, top side up on the pad. Avoid air bubbles.
5. Incubate at 35 °C for 1.5 to 2.0 hours in a humid atmosphere.
6. Transfer the filter - again top side up - to the surface of the agar. Avoid entrapment of air.
7. Incubate inverted plates at 35 °C ± 0.5 °C for 20 to 24 hours aerobically.

## Quality control

Test strains	Growth	Colour of colony	Metallic sheen
<i>Escherichia coli</i> ATCC 25922	good / very good	red	+
<i>Enterobacter aerogenes</i> ATCC 13048	good / very good	red	+
<i>Proteus mirabilis</i> ATCC 14273	good / very good	colourless	-
<i>Staphylococcus aureus</i> ATCC 25923	none		
<i>Enterococcus faecalis</i> ATCC 19433	none / poor		

## Evaluation

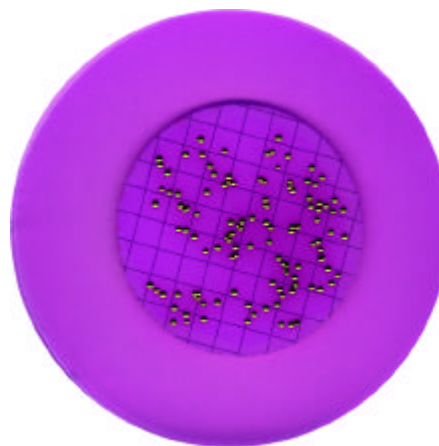
Count all red colonies on the filtre having the characteristic metallic sheen.

## Literature

American Public Health Association, American Water Works Association and Water Pollution Control Federation: Standard Methods for the Examination of Water and Wastewater, 20<sup>th</sup> Ed., Washington, 1998.

## Ordering Information

Product	Merck Cat. No.	Pack size
m-Endo Agar LES	1.11277.0500	500 g
Laurylsulfate Broth	1.10266.0500	500 g



*Escherichia coli*  
ATCC 25922