Endo Agar w/ NaCl

M1258

Intended Use:

This medium is used for detection and isolation of pathogenic enteric bacilli

Composition**

Ingredients	g / L
Special peptone	8.000
Lactose	10.000
Sodium chloride	3.000
Dipotassium hydrogen phosphate	2.000
Sodium sulphite	2.500
Basic Fuchsin	0.200
Agar	12.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 37.7 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If the solidified culture medium is somewhat too red, then to remove the colour, add a few drops (max.1ml/litre) of a freshly prepared 10% Sodium sulphite solution and boil. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Endo Agar was developed by Endo to differentiate gram-negative bacteria on the basis of lactose fermentation, while inhibiting gram-positive bacteria (1). Endo was successful in inhibiting gram-positive bacteria on this medium by the incorporation of sodium sulphite and basic fuchsin Endo Agar w/ NaCl is prescribed in the regulations for the execution of the German Meat Inspection Law (2).

The medium contains peptone special which provide nitrogen, carbon, vitamins and minerals required for bacterial growth. Sodium sulphite and basic fuchsin inhibits most of the gram-positive bacteria. Lactose fermenting *Escherichia coli* and coliforms produce aldehyde and acid. The aldehyde liberates fuchsin from the fuchsin-sulphite complex and colonies of lactose fermenters appear dark red. Non-lactose fermenters show colourless colonies. With *Escherichia coli*, this reaction is very pronounced as the fuchsin crystallizes, exhibiting a permanent greenish metallic luster (fuchsin luster) to the colonies. Medium should be stored away from light to avoid photo-oxidation.

Type of specimen

Clinical samples - urine; Food and dairy samples; Water samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4).

For food and dairy samples follow appropriate techniques for sample collection and processing as per guidelines (5,6).

For water samples follow appropriate techniques for sample collection, processing as per guidelines and local standards (7).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic use. For professional use only. Read the label before opening the container. Wear protective gloves/ protective clothing/ eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture.Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Besides *Enterobacteriaceae,* other gram negative bacteria and yeasts may also grow.
3. Avoid exposure of the medium to light, as it may lead to photo oxidation and decrease productivity of the medium

4. Overheating of the medium must be avoided, as it may destroy the productivity of the medium.
5.Further biochemical tests must be carried out for confirmation.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Light pink to purple homogeneous free flowing powder

Gelling

Firm, comparable with 1.2% Agar gel

Colour and Clarity of prepared medium

Orangish pink coloured, clear to slightly opalescent gel with fine precipitate forms in Petri plates.

Reaction

Reaction of 3.77% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH

7.30-7.70

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Bacillus subtilis subsp. *spizizenii* ATCC 6633 (00003*)	>=10^4	inhibited	0%	
Klebsiella aerogenes ATCC 13048 (00175*)	50-100	good-luxuriant	>=50%	pink
Enterococcus faecalis ATCC 29212 (00087*)	50-100	none-poor	<=10%	pink, small
Escherichia coli ATCC 25922 (00013*)	50-100	good-luxuriant	>=50%	pink to rose red with metallic sheen
Klebsiella pneumoniae ATCC 13883 (00097*)	50-100	good-luxuriant	>=50%	pink, mucoid
Proteus vulgaris ATCC 13315	50-100	good-luxuriant	>=50%	colourless to pale pink
Pseudomonas aeruginosa ATCC 27853 (00025*)	50-100	good-luxuriant	>=50%	colourless, irregular
Salmonella Typhi ATCC 6539	50-100	good-luxuriant	>=50%	colourless to pale pink
Shigella sonnei ATCC 25931	50-100	good-luxuriant	>=50%	colourless to pale pink
Staphylococcus aureus subsp. *aureus* ATCC *25923* (00034*)	>=10^4	inhibited	0%	
Enterobacter cloacae ATCC 13047 (00083*)	50-100	good	40-50%	pink
Salmonella Typhimurium ATCC 14028 (00031*)	50-100	good-luxuriant	>=50%	colourless
Salmonella Enteritidis ATCC 13076 (00030*)	50-100	good-luxuriant	>=50%	colourless
Shigella flexneri ATCC 12022 (00126*)	50-100	good-luxuriant	>=50%	colourless

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1. Endo S., 1904, Centralbl. Bakt. I. Orig., 35:109.
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4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
7. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.

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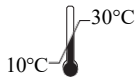
IVD *In vitro* diagnostic medical device



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
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www.cepartner4u.eu

CE CE Marking

Do not use if package is damaged

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