Endo Agar

Intended Use
Endo Agar is a differential and slightly selective medium used for detection of coliforms and other enteric microorganisms.

Summary
Endo Agar was developed by Endo to differentiate Gram-negative bacteria on the basis of lactose fermentation, while inhibiting Gram-positive bacteria. Inhibition of the later was achieved without the use of bile salts as was traditionally used. Endo was successful in inhibiting Gram-positive bacteria on his medium by the incorporation of sodium sulphite and basic fuchsin. The resulting Endo Agar, also known as Fuchsin Sulphite and Infusion Agar, was used to isolate the typhoid bacilli. Many modifications of this media have been done over the years. Endo Agar is recommended by APHA as an important medium in the microbiological examination of water and wastewater, dairy products and foods. Endo Agar is used to confirm the detection and enumeration of coliform bacteria following presumptive test of drinking water. It is also used for the detection and isolation of coliforms and fecal coliforms from milk, dairy products and food.

Principle
The medium contains peptone which provide nitrogen, carbon, vitamins and minerals required for bacterial growth. Sodium sulphite and basic fuchsin make this medium selective by suppressing Gram-positive organisms. Coliforms produce pink colonies on fermentation of lactose while lactose non-fermenters produce colourless colonies on the medium.

Formula*
Ingredients	**g/L**
Lactose	10.0
Peptone	10.0
Sodium Sulphite	2.5
Dipotassium Phosphate	3.5
Basic Fuchsin	0.5
Agar	15.0
Final pH (at 25°C)	7.5 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Clinical samples - urine; Food and dairy samples; Water samples.

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 41.50 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation to dissolve the powder completely.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
5. Cool to 55°C.
6. Re-suspend precipitate by gently mixing before use.

Warning: Basic Fuchsin is potential carcinogen. Avoid inhalation of the powder and contact with skin.

Quality Control

Dehydrated Appearance: Light pink to purple coloured, homogeneous free flowing powder.
Prepared Appearance: Light pink to orangish pink coloured, slightly opalescent gel with fine precipitate forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation at 35°C-37°C for 18-24 hours.

Organism (ATCC)	Growth	Colour of Colony
Escherichia coli (25922)	Good	Rose red with metallic sheen
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	Pale pink
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (23564)	Good	Pale pink
Enterococcus faecalis (29212)	Partial Inhibition	Pink, small
Klebsiella pneumoniae subsp. *pneumoniae* (10031)	Good	Pink, Mucoid
Klebsiella aerogenes (13048)	Good	Pink, Mucoid
Staphylococcus aureus subsp. *aureus* (25923)	Inhibited	-

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precautions / Limitations

1. Besides *Enterobacteriaceae*, other Gram-negative bacteria and yeasts may also grow.
2. Avoid exposure of the medium to light, as it may lead to photooxidation and decrease productivity of the medium.
3. Overheating of the medium must be avoided, as it may destroy the productivity of the medium.
4. Further biochemical tests must be carried out for further confirmation.

Warranty

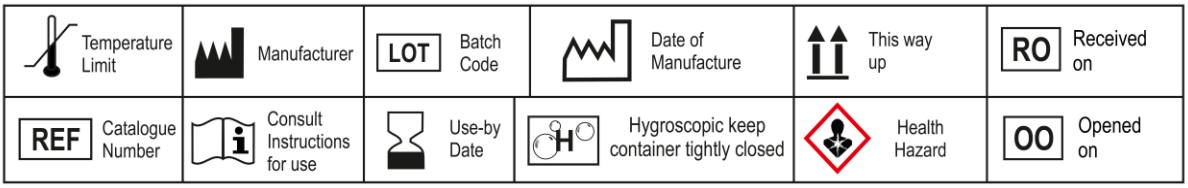
This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Endo S., 1904, Zentralbl. Bakteriol., Abt. 1, Orig.35:109-11
2. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
3. 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.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201050110500	Dehydrated Culture Media	500 g



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Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.