



ENDO AGAR

TM 372

INTENDED USE

For confirmation of members of coliform group

COMPOSITION

Ingredients	Gms/Ltr.
Agar	15.000
Peptone	10.000
Lactose	10.000
Dipotassium phosphate	3.500
Sodium sulphite	2.500
Basic fuchsin	0.500

PRODUCT SUMMARY AND EXPLANATION

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.

INSTRUCTION FOR USE

1. Dissolve 41.5 grams in 1000 ml distilled water.
2. Gently heat to boiling to dissolve the medium completely.
3. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
4. Mix well and pour into sterile Petri plates.



5. If the solidified culture medium is somewhat too red, then to remove the colour add a few drops (max. 1 ml/litre) of a freshly prepared 10% Sodium sulphite solution and boil.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder: Light pink to purple colour, homogeneous free flowing powder

Appearance of prepared medium: Orangish pink colour, clear to slightly opalescent gel

pH (at 25°C) : 7.5 ± 0.2

INTERPRETATION:

Culture characteristics observed after incubation period of 18 - 24 hours at $35 \pm 2^\circ\text{C}$.

Microorganisms	ATCC	*Inoculum (CFU)	Appearance of colony	Standard recovery (%)
<i>Escherichia coli</i>	25922	50-100	Pink to rose red, with metallic sheen	$\geq 50\%$
<i>Enterobacter aerogenes</i>	13048	50-100	Pink	$\geq 50\%$
<i>Salmonella typhimurium</i>	14028	50-100	Colourless	$\geq 50\%$
<i>Pseudomonas aeruginosa</i>	27853	50-100	Colourless	$\geq 50\%$
<i>Proteus vulgaris</i>	13315	50-100	Colourless to pale pink	$\geq 50\%$
<i>Enterococcus faecalis</i>	29212	50-100	Pink	$\leq 10\%$
<i>Staphylococcus aureus</i>	25923	≥ 1000	Inhibited	0%
<i>Bacillus cereus</i>	6633	≥ 1000	Inhibited	0%

STORAGE & STABILITY

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

REFERENCES

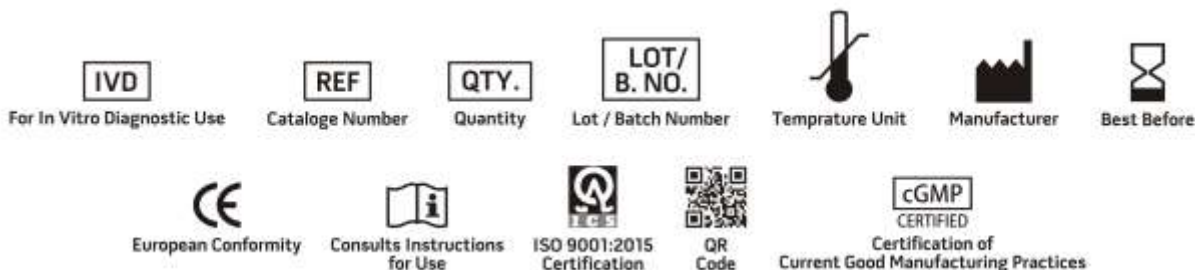
1. Endo S., 1904, Zentralbl. Bakteriologie, Abt. 1, Orig.35:109-11
2. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.



www.tmmedia.in

PRODUCT DATA SHEET

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. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
5. *American Public Health Association (1998) Standard Methods for the Examination of Water and Wastewater. 20th Edn. APHA Inc. Washington DC.*
6. *American Public Health Association (1978) Standard Methods for the Examination of Dairy Products. 14th Edn. APHA Inc. Washington DC.*



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.