TECHNICAL DATA SHEET

ENDO AGAR

CONFIRMATION OF COLIFORMS

1   INTENDED USE

Endo Agar is used for the confirmation of the presence of coliforms and/or thermotolerant coliforms in drinking water, in milk, in dairy products and in other foods.

2   HISTORY

In 1904, Endo worked on developing a bile salt-free medium which could be used to differentiate enterobacteria as a function of their capacity to ferment lactose. Gram-positive bacteria were inhibited by sodium sulfite and basic fuchsin.

3   PRINCIPLES

The selectivity of Endo Agar is due primarily to the simultaneous presence of sodium sulfite and basic fuchsin which inhibit contaminating Gram-positive bacteria.

In this medium, where basic fuchsin has been decolored by sodium sulfite, the organisms that do no ferment lactose give rise to colorless and shiny colonies, while coliforms form red colonies. This color is due to acetaldehyde produced which reacts with sulfited fuchsin to release fuchsin. The reaction is so intense in the case of *Escherichia coli* that it imparts an iridescent green sheen to the colonies.

4   TYPICAL COMPOSITION

The composition can be adjusted in order to obtain optimal performance.

For 1 liter of media :
- Pancreatic digest of meat... 10,0 g
- Lactose... 10,0 g
- Dipotassium phosphate... 3,5 g
- Sodium sulfite.. 2,5 g
- Basic fuchsin .... 0,5 g
- Bacteriological agar.. 15,0 g

pH of the ready-to-use media at 25 °C : 7,5 ± 0,2.

5   PREPARATION

- Dissolve 41,5 g of dehydrated media (BK057) in 1 liter of distilled or demineralized water.
- Slowly bring to boiling, stirring with constant agitation until complete dissolution.
- Dispense in tubes or flasks.
- Sterilize in an autoclave at 121 °C for 15 minutes.
- Cool and maintain in a molten state at 44-47 °C.
- Mix well in order to distribute any precipitate.
- Pour into sterile Petri plates and let solidify on a cool, even surface.
- Dry the plates in an incubator, covers partially removed.

✓ **Reconstitution :**
41,5 g/L

✓ **Sterilization :**
15 min at 121°C

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6 INSTRUCTIONS FOR USE

- Inoculate using a loop of enrichment broth or pick colonies and spread over the solid media prepared as described.
- Incubate at 37 ± 1 °C for 24 to 48 hours.

> ✓ **Inoculation :**
>   **On surface**
>
> ✓ **Incubation :**
>   **24 to 48 h at 37°C**

7 RESULTS

Colony aspect is as follows :

Characteristics	Microorganisms
Pink to red colonies with a green metallic sheen	*Escherichia coli*
Pink colonies	*Enterobacter aerogenes*
Uncolored colonies	*Proteus, Salmonella, Shigella, Pseudomonas*

8 QUALITY CONTROL

Dehydrated media : violet powder, free-flowing and homogeneous.
Prepared media : red-orange media, may present a slight precipitate after autoclaving.

Typical culture response after 24 hours of incubation at 37 °C:

Microorganisms		Growth	Characteristics
Escherichia coli	WDCM 00013	Good, score 2	Red colonies with metallic green sheen
Enterobacter aerogenes	WDCM 00175	Good, score 2	Red colonies

9 STORAGE / SHELF LIFE

Dehydrated media : 2-30 °C.
The expiry date is indicated on the label.

Prepared media in vials (*) : Not recommended.
Prepared media in plates (*) : 3 days at 2-8 °C, shielded from light. Due to the progressive penetration of oxygen, the sulfites will oxide somewhat, leading to the progressive reddening of the media and rendering it unusable.

 (*) Benchmark value determined under standard preparation conditions, following manufacturer's instructions.

10 PACKAGING

Dehydrated media :
500 g bottle BK057HA

11 BIBLIOGRAPHY

Endo. 1904. Zentralbl. Bakteriol., Abt 1, orig., 35: 109.

Standard Methods for the examination of Dairy Products. 1967. Am. Public Health Association N.Y., 12th Ed.

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12   ADDITIONAL INFORMATION

The information provided on the labels take precedence over the formulations or instructions described in this document and are susceptible to modification at any time, without warning.

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