BacterLab Division

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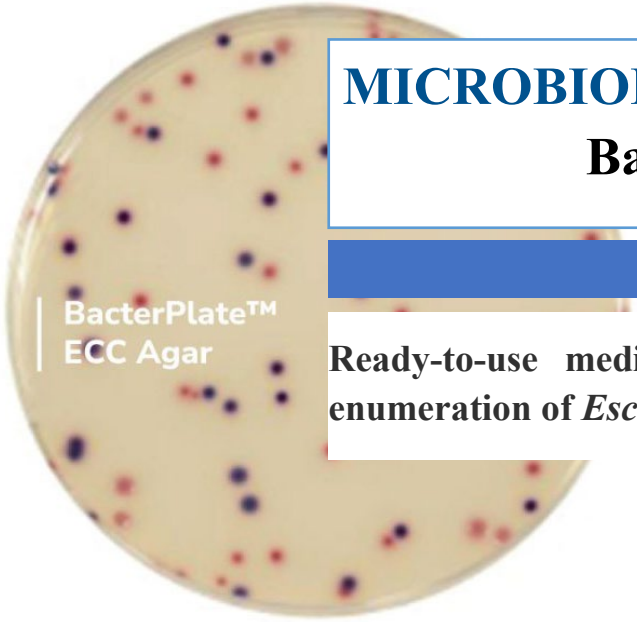


# MICROBIOLOGICAL CULTURE MEDIUM

## BacterPlate™ ECC Agar

**Ready-to-use medium on 90mm plates for the detection and enumeration of *Escherichia coli* and coliforms**

## Code: 05002

## 1. INTENDED USE

**BacterPlate™ ECC Agar** s a selective agar for the simultaneous and specific enumeration without confirmation of *Escherichia coli* and of other coliform bacteria in human and animal food.

The packaging with semi-permeable Cellophane film helps balance the humidity of the environment during storage.

## 2. PRINCIPLES

The classification of coliforms is traditionally founded on their capacity to ferment lactose with a corresponding production of acid. The fermentation of lactose results from the successive cascade effect of two enzymes : first a permease responsible for the penetration of the sugar into the bacteria, and then a β-galactosidase which cuts the glucose to galactose, thereby actively entering into the fermentation process.

In 1989, Leclerc & Mossel proposed that the presence of β - galactosidase with coliforms be used as the main criteria for classification. The use of a synthetic chromogenic substrate, insensitive to variations in the permeability of lactose, allows the use of this enzyme by a colorimetric reaction.

94 to 97% of *Escherichia coli* possess a β-D-glucuronidase activity and that the same activity is only rarely encountered with other species (enzyme activity has been detected in a small number of strains of *Citrobacter*, *Enterobacter*, *Klebsiella*, *Salmonella*, *Shigella* and in *Yersinia*)

## 3. TYPICAL COMPOSITION

*For 1 liter of medium*

| | |
|---|---|
| Peptones | 18,4 g |
| Buffering system | 5,8 g |
| Growth activators | 3,55 g |
| Chromogenic mixture | 0,44 g |
| Selective agents | 1,61 g |
| Agar | 11 g |

***pH of the ready-to-use medium at 25°C: 6,9 ± 0,2***

## 4. PREPARATION

The environmental plates are ready-to-use, no preparation required.

## 5. INSTRUCTIONS FOR USE

- Allow the agar plates to stabilize at room temperature. Dry the plates in an incubator by partially opening the lids.
- Streak the sample onto the agar plates using a sterile inoculating loop.
- Incubate the plates at 35 ± 2°C for 18 – 24 hours

## 6. RESULTS

- After incubation, count the number of colonies on plates containing fewer than 300 colonies.
- Coliforms other than *Escherichia coli* produce pink colonies.
- Colonies of *Escherichia coli* appear blue to violet and may sometimes exhibit a diffuse pink halo around the colonies.

## 7. QUALITY CONTROL

**BacterLab** ensures the quality of each product batch by testing with WDCM reference strains.

| Reference strains | Incubation conditions | Expected results |
|---|---|---|
| *E. coli* ATCC 35218 | 35 – 37°C, 18 – 24 hours | $P_R \geq 50$ % |
| *E. faecalis* ATCC 29212 | | No growth, inhibited |
| *S. aureus* ATCC 25923 | | No growth, inhibited |

## 8. STORAGE AND TRANSPORT CONDITIONS

- Storage: 2 – 8°C.
- Transportation: Ambient temperature.

## 9. PACKAGING

- Packaging: 10 plates/ box or as per customer request.

## 10. SHELF LIFE

- Expiration Date: 4 months from the manufacturing date.

## 11. BIBLIOGRAPHY


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