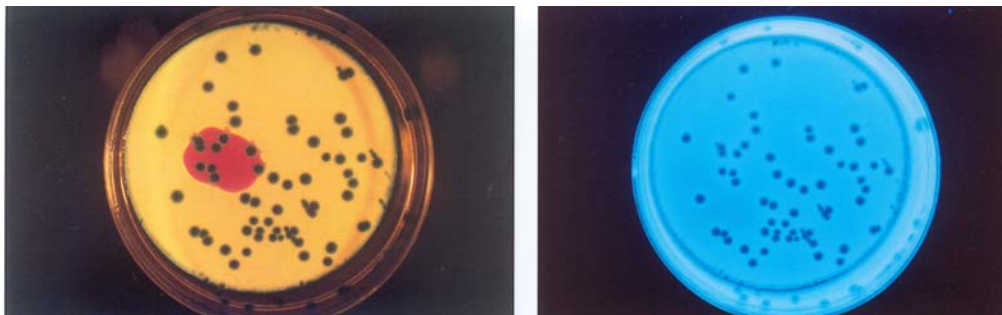


C - EC AGAR C- EC MF PLATES

Powdered chromogenic and fluorogenic medium and ready to use plates and flasks for the simultaneous detection of total coliforms and *Escherichia coli* in water and foodstuffs.



C-EC MF Plate: left: *Escherichia coli* sunlight; right: *Escherichia coli* under Wood's Lamp. The strain is indole positive and strongly fluorescent (β -Glucuronidase positive).

Typical formula (g/l)

| | |
|-----------------|-------|
| Tryptose | 10.00 |
| Tryptophan | 1.00 |
| Peptocomplex | 5.00 |
| Yeast Extract | 3.00 |
| Sodium Chloride | 5.00 |
| Bile Salts n. 3 | 1.50 |
| IPTG | 0.10 |
| X-GAL | 0.08 |
| MUG | 0.05 |
| Agar | 13.00 |

Directions for powdered medium

Suspend 38.8 g in 1000 ml of cold distilled water. Heat to boiling, stirring until complete dissolution. Sterilize in the autoclave at 121°C for 15 minutes. Pour into sterile Petri dishes. Final pH 7.4 \pm 0.2

Description

The detection and enumeration of faecal indicators is one of the main tests for estimating the microbiological quality of waters and foodstuffs. The usual methods require from 24 till 72 hours to get complete results, and give some false positive and false negative or doubtful results due to late or weak lactose metabolism.

C-EC Agar allows a quantitative detection in 18-24 hours of total coliforms and *E.coli* through a method based on the enzymatic hydrolysis of fluorogenic and chromogenic substrates by means of β -galactosidase (β -GAL) and β -glucuronidase (β -GLU).

C-EC Agar is prepared with a selective agar base, supplemented with 5-bromo-4-chloro-3-indolyl- β -D-galactopyranoside (X-GAL), 4-methylumbelliferil- β -D-glucuronide (MUG), isopropyl- β -D-thiogalactoside (IPTG) and tryptophan.

This medium allows the selective growth of *Enterobacteriaceae* and of a few other Gram-negative bacteria, being Gram positive inhibited by the selective agents present in the substrate.

Among *Enterobacteriaceae*, the coliforms have the β -galactosidase enzyme, hydrolyse the X-GAL compound, and grow with blue green colonies; *E. coli* hydrolyses X-GAL and MUG with formation of umbelliferone, strongly fluorescent when the plates are observed under Wood's lamp. The hydrolysis of X-GAL is enhanced by IPTG, a lactose operon inducer. The indole test can confirm the presence of *E. coli* by adding a drop of Kovacs' reagent to the colonies.

Technique

C-EC Agar is prepared by Biolife as a powdered medium, as ready to use 55 mm plates (C EC-MF Plate) and as a ready to dissolve medium in flasks.

C-EC-Agar can be used with plating method for foodstuffs and with membrane filtration method for water samples. It is useful for the detection and enumeration of:

- *E. coli* and total coliforms in water and foodstuffs incubating at 30°C for 18-24 hours

- *E. coli* and faecal coliforms in water and foodstuffs incubating at 44°C for 18-24 hours

E. coli grows on the medium with blue-green colonies, fluorescent when observed under a Wood's lamp, positive to indole test.

Coliform bacteria other than *E. coli* grow with blue-green colonies not fluorescent under Wood's lamp.

User quality assurance (24 h-37°C)

Productivity control

E. coli ATCC 25922: growth, blue-green colonies fluorescent under Wood's lamp, indole positive

Specificity control

K. pneumoniae ATCC 27736: growth, blue-green colonies not fluorescent under Wood's lamp, indole negative

Selectivity control

E. faecalis ATCC 19433: inhibited

Storage

Dehydrated medium: 2-8°C

Ready to use plates and flasks: 2-8°C

User prepared plates: up to 7 days at 2-8°C

User prepared flasks: 1 month at 2-8°C

References

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Packaging

| | | |
|----------------|-------------------------|---------------------------------------|
| 4012981 | C - EC Agar | 100 g (2.6 l) |
| 4012982 | C - EC Agar | 500 g (12.9 l) |
| 497101 | C - EC MF Plates | 30 ready to use 55 mm plates |
| 511298 | C - EC Agar | 6 x 100 ml ready to use flasks |