Ready Prepared Media

Technical Information

MiCrome ESBL Agar Plate

Product Code: PM 2829

Application: Recommended for the detection of Extended Spectrum ß-Lactamase-producing organisms from clinical & environmental samples.

Composition**

Ingredients	Gms / Litre
Peptone mix	12.000
Chromogenic mixture	4.000
Sodium chloride	5.000
Buffer mix	4.000
Agar	15.000
AC3F Selective Supplement (MS2278)	**2 vial**
Ceftazidime (2x1.50mg)	3.000mg
Cefotaxime (2x1.50mg)	3.000mg
Ceftriazone (2x1.00mg)	2.000mg
Aztreonam (2x1.00 mg)	2.000mg
Fluconazole (2x 5.00 mg)	10.000mg
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Extended-spectrum ß-lactamase (ESBL)-producing organisms are an increasing challenge for healthcare practitioners fighting healthcare-associated infections (HAIs). *Escherichia coli, Klebsiella pneumoniae*, and *Klebsiella oxytoca* are the most common ESBL-producing pathogens (1). ESBL-producing organisms are generally resistant to many classes of antibiotics, including aminoglycosides and fluoroquinolones; ESBL-producing organisms are able to attack newer cephems and monobactams as well as narrow-spectrum cephalosporins and antigram-negative penicillins (2). They are associated with increased mortality and are difficult to detect and treat. The widespread use of extended-spectrum, third-generation cephalosporins, introduced in the 1980's to treat antibiotic-resistant bacteria, is believed to be a major contributor to the emergence of ESBL-producing organisms.

MiCrome ESBL Agar Base is chromogenic screening medium for the selective isolation of ESBL producing organisms. It contains peptone mix which serves as the carbon and nitrogen sources, long chain amino acids, vitamins and other growth nutrients. Chromogenic mixture is used to differentiate the ESBL producing organisms on the basis of colour. AC3F Selective Supplement (MS2278) helps in inhibition of other contaminating organisms. ESBL producing *E.coli* grow as either pink or purple colonies.

ESBL producing members of the KESC group produce bluish green colonies; *Proteus, Morganella* and *Providencia* do not utilize any chromogen resulting in colourless to light brown colonies.

This medium can be inoculated with liquid suspension equivalent to 0.5 McFarland turbidity, prepared from rectal screening swabs, faecal samples or from isolated colony. Isolated colonies should not be directly plated on to this medium, because the high level inoculum may cause false positive results. Further confirmation using biochemical identification tests is recommended.

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Type of specimen

Clinical samples - rectal screening swabs, faecal samples or from isolated colony.

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (1,3).After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use only. For professional use only. Read the label before opening the pack. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Slight colour variation may be observed depending upon strains.
3. Isolated colonies should not be directly plated on to this medium, because the high level inoculum may cause falsepositive results.
4. Further confirmation using biochemical identification tests is recommended.
5. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the mediumfoany specific microorganism other than mentioned in the COA based on the user's unique requirement

Performance and Evaluation

Performace of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance
Sterile MiCrome ESBL Agar Plate in 90mm disposable plate.
Colour of medium
Yellow coloured medium
Quantity of medium
25ml of medium in 90mm plate
Reaction
6.60-7.00
Sterility Check
Passes release criteria
Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 24 hours

Organism	Inoculum(CFU)	Growth	Colour of Colony
Escherichia coli NCTC 13351	50-100	luxuriant	Pink to purple
Klebsiella pneumoniae ATCC 700603	50-100	luxuriant	Bluish green
Enterobacter cloacae ATCC 23355	>=10^3	Inhibited	
Citrobacter freundii ATCC 8090	>=10^3	Inhibited	
Candida albicans ATCC 10231 (00054*)	>=10^3	Inhibited	

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

- On receipt store between 2-8°C Use before expiry date on the label.
- Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques(1,3) .

Further Readings

1.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

2.Journal of Clinical Microbiology, February 2007, Page 501-505, Vol. 45, No. 2.

3.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
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- Do not use the products if it fails to meet specificatons for identity and performens parameters.