HiCrome™ ESBL Agar Base

M1829

Intended Use:

Recommended for selective isolation Extended-Spectrum ß-lactamase-Producing *Enterobacteriaeceae.*

Composition**

Ingredients	g/ L
Peptone mix	12.000
Chromogenic mixture	4.000
Sodium chloride	5.000
Buffer mix	4.000
Agar	15.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 40.0 gram in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and add rehydrated contents of two vials of AC3F Selective Supplement (FD278). Mix well and pour into sterile Petri plates.

Principle And 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 (1). 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.

HiCrome™ 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 (FD278) 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.

Type of specimen

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

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (2,3).
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 container. 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. Some species may show poor growth due to nutritional variations.
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 false positive results.
4. Further confirmation using biochemical identification tests is recommended.

Performance and Evaluation

Performance 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

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured opalescent gel forms in Petri plates

Reaction

Reaction of 4.0% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH

6.60-7.00

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24 hours with added AC3F Selective Supplement (FD278).

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Escherichia coli NCTC 13351	50-100	luxuriant	>=50%	pink to purple
Klebsiella pneumoniae ATCC 700603	50-100	luxuriant	>=50%	bluish green
Enterobacter cloacae ATCC 23355	>=10^4	inhibited	0%	-
Citrobacter freundii ATCC 8090	>=10^4	inhibited	0%	
Candida albicans ATCC 10231 (00054*)	>=10^4	inhibited	0%	

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 15-25°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. 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 (2, 3).

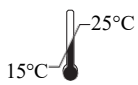
Reference

1. Journal of Clinical Microbiology, February 2007, Page 501-505, Vol. 45, No. 2
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition
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.

Revision : 06/2024

HiMedia Laboratories Pvt. Limited,
Plot No.C-40, Road No.21Y,
MIDC, Wagle Industrial Area,
Thane (W) -400604, MS, India

IVD ***In vitro* diagnostic medical device**



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE Marking

Do not use if package is damaged

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.