HiCrome™ Rapid MRSA Agar Base

M1974

Intended Use:

Recommended for rapid isolation and identification of Methicillin Resistant *Staphylococcus aureus* (MRSA)

Composition**

Ingredients	g / L
Special peptone	20.000
Casitose ▲	20.000
Sodium chloride	8.500
Carbohydrate	14.000
Phenol red	0.025
Chromogenic mix	6.500
Amino-Vitamin mix	1.200
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

▲ - Equivalent to Casein peptone

Directions

Suspend 85.23 gram in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Cool to 45-50°C. Aseptically add sterile rehydrated contents of 1 vial of ACC Selective Supplement (FD319).Mix well and pour into sterile Petri plates. **DO NOT AUTOCLAVE.**

Principle And Interpretation

MRSA is a resistant variation of the common bacterium *Staphylococcus aureus*. It is an invasive pathogen that can cause disease in almost any tissue or organ in the human body, primarily in compromised individuals (1). *Staphylococcal* infections were earlier treated using Penicillin. But over the years resistance to this drug developed. Methicillin was the next drug of choice. While methicillin is very effective in treating most *Staphylococcus* infections some strains have developed resistance to methicillin and can no longer be killed by this antibiotic. These resistant bacteria are called Methicillin Resistant *Staphylococcus aureus* (MRSA) (2). Patients with breaks in their skin due to wound, indwelling catheters or burns are those with certain risk of developing MRSA infection (3).

Special peptone, Casitose and amino-vitamin mix provides essential nutrients for growth. Carbohydrate is the source of carbon and energy. Phenol red is the pH indicator. The chromogenic mixture incorporated in the medium is specifically cleaved by *Staphylococcus aureus* (MRSA) to give greenish yellow coloured colonies. Sodium chloride in the medium helps to maintain the osmotic equilibrium of the medium. High concentration of sodium chloride also helps in inhibiting the accompanying microflora. Agar acts as solidifying agent.

Type of specimen

Clinical samples - Tissue samples, wound swab, nasal swab, etc.

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5)
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. Certain strains of MRSA which are intermediate may show show poor growth. Further incubation upto 48 hours should be carried out.
2. Some strains may show poor growth due to varying nutritional requirements.
3. Further sensitivity can be carried out to ascertain the extent of resistance
4. Further biochemical tests must be carried out to differentiate between MRSA and MRSE.

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 temmperature.

Quality Control

Appearance

Cream to beige homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Red coloured,clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 8.52% w/v aqueous solution 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed with added ACC Selective Supplement (FD319)after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Staphylococcus aureus, MRSA ATCC 43300 (00211*)	50-100	luxuriant	>=50%	greenish yellow (Note: Green colour may develop after 48 hours)
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	>=10^4	inhibited	0%	
Staphylococcus aureus subsp.aureus ATCC 6538 (00032*)	>=10^4	inhibited	0%	
Escherichia coli ATCC 25922 (00013*)	>=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 (4,5).

Reference

1. DWorkin M et. al 2006. The Prokaryotes (a Handbook on the Biology of Bacteria) 3rd ed, Vol. 2, page 345.
2. Methicillin Resistant Staphylococcus aureus Copyright ã 1997-2005 Canadian Centre for Occupational Health and Safety, Sept 19th, 2005.
3. Dr. Alan Johnson, methicillin resistant Staphylococcus aureus (MRSA) infection. The Support group for MSRA sufferers and Dependents, Aug 1st , 2005.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. 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 : 05/ 2024

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

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

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

15°C – 25°C **Storage temperature**

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.