Ready Prepared Media

Technical Information

MiCrome Salmonella Agar Plate

Product Code: PM 2296

Application: Recommended for the isolation and differentiation of *Salmonella* species from coliforms by chromogenic method.

Composition**

Ingredients	Gms / Litre
Peptone	6.000
Yeast extract	2.500
Bile salts mixture	1.000
Chromogenic mixture	5.400
Agar	13.000
Final pH (at 25°C)	7.7±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Salmonella species have been isolated from humans and almost all animals throughout the world. They cause many types of infections from mild, self-limiting gastroenteritis to life threatening typhoid fever. *Salmonella* Typhi and *Salmonella* ParatyphiA & B cause gastroenteritis, bacteremia and enteric fever, *Salmonella* Choleraesuis causes gastroenteritis and enteric fever, especially in children. *Salmonella* Typhimurium is the most frequently isolated serotype of *Salmonella*. *Salmonella* is a causeof food poisoning (1).

MiCrome Salmonella Agar is a modification of the original formulation of Rambach (2) and is used for the differentiation of *Salmonella* species from other enteric bacteria. Rambach formulation differentiates *Salmonella* based on propylene glycol utilization and presence of a chromogenic indicator. However, HiCrome™ Salmonella Agar medium uses only a chromogenic mixture for identification and differentiation of *Salmonella* species.

Peptone and yeast extract provides nitrogenous, carbonaceous compounds and other essential growth nutrients. *Escherichiacoli* and *Salmonella* are easily distinguishable due to their colony characteristics. *Salmonella* forms light purple coloured colonies with a purple halo.

E.coli and other ß-glucuronidase positive organism exhibits a characteristic blue colour, due to presence of the enzyme ß- glucuronidase. Other organisms form colourless colonies. The characteristic light purple and blue colour is due to the chromogenic mixture (3). Bile salts mixture inhibits gram-positive organisms.

Conventional method employees the H2S production property for Salmonella detection which is also exhibited by other non *Salmonella* species such as *Citrobacter*, *Proteus*, etc. Hence further biochemical confirmation is required for further identification. *Salmonella* species isolated from food or clinical samples exhibit light purple colour with halo due to thespecific enzyme substrate reaction.

Type of specimen

Clinical samples: faeces, urine, etc.; Food Samples; Water samples

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
For food samples, follow appropriate techniques for sample collection and processing as per guidelines (6). For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (7). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use. 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 specimensand culture. Standard precautions as per established guidelines should be followed while handling clinical specimens.Safety guidelines may be referred in individual safety data sheets. Precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. The medium is selective for *Salmonella* may not support the growth of other microorganisms.
2. Most of the *Salmonella* strains show light purple colonies except few which may show colorless colonies.
3. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium
4. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to usersto validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.
5. Final confirmation of suspected colonies must be carried out by serological and biochemical tests.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when storedat recommended temperature.

Methodology

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Quality Control

Appearance
Sterile HiCrome Salmonella Agar in 90mm disposable plate with smooth surface and absence of black particles/cracks/ bubbles.
Colour
Greenish brown coloured medium
Quantity
25 ml of medium in 90 mm plate
pH
7.50-7.90
Sterility Check

Passes release criteria

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Growth	Inoculum(CFU)	Recovery	Colour of colony
Staphylococcus aureussubsp. aureus ATCC 25923 (00034*)	inhibited	>=10^3	0%	
Bacillus subtilis subsp. spizizenii ATCC 6633 (00003*)	inhibited	>=10^3	0%	
Escherichia coli ATCC 25922 (00013*)	luxuriant	50-100	>=50%	blue
Proteus vulgaris ATCC 13315	good	50-100	40-50%	colourless
Salmonella Typhimurium ATCC 14028 (00031*)	luxuriant	50-100	>=50%	light purple w/halo
Salmonella Enteritidis ATCC13076 (00030*)	luxuriant	50-100	>=50%	light purple w/halo
Salmonella Typhi ATCC 6539	good- luxuriant	50-100	>=50%	light purple w/halo

(*) - 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 samplemust be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Further Reading

1. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2. Rambach A., 1990, Appl. Environ. Microbiol., 56:301.
3. Greenwald R., Henderson R. W. and Yappan S., 1991, J. Clin. Microbiol., 29:2354.
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.
6. Salfinger Y., and Tortorello M.L. , 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
7. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24thed. Washington DC:APHA Press; 2023.

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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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- of diagnostic reagents extra.
- 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.
- Do not use the products if it fails to meet specificatons for identity and performens parameters.