



Salmonella Differential Agar, Modified (Twin pack)

M1082

Intended Use:

Salmonella Differential Agar media are recommended for identification and differentiation of *Salmonella* species from members of *Enterobacteriaceae*, especially *Proteus* species.

Composition**

Ingredients	g / L
Part A	-
Peptone special	8.000
Yeast extract	3.000
Sodium deoxycholate	1.000
Sodium chloride	5.000
B. C. Indicator	2.000
Agar	12.000
Part B	-
Propylene glycol	10.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 10 gram of fluid Part B in 1000 ml purified / distilled water. Add 31 grams of Part A. Mix well and heat to boiling to dissolve the medium completely. **DO NOT AUTOCLAVE**. Cool to 45-50°C. Mix well before pouring into sterile Petri plates.

Principle And Interpretation

Salmonella Differential Agar is slight modification of original formulation of Rambach (1) used for differentiation of *Salmonella* species from *Proteus* species and other enteric bacteria. Production of acid from propylene glycol is a novel characteristic of *Salmonella* species and is utilized in these media. Many of the media such as SS Agar, XLD Agar recommended for the identification and differentiation of *Salmonella* species (2) are based on lactose fermentation and hydrogen sulphide production.

Peptone special and yeast extract supports the luxuriant growth of bacteria by supplying nitrogen and carbon compounds, long chain amino acids, vitamins and other essential nutrients. Sodium deoxycholate inhibits gram-positive organisms rendering the medium selective for enteric microorganisms. The BC indicator turns pink in presence of acid produced from propylene glycol. Lactose fermenting ability is determined by using an indicator, which can detect the presence of enzyme β -galactosidase. Lactose fermenting (β -galactosidase producing) bacteria yield blue violet coloured colony (3). *Salmonella* produce acid from propylene glycol and on combining with the pH indicator gives typical pink red colonies. Other enteric gram-negative bacteria form colourless colonies. *Salmonella* Typhimurium and *Salmonella* Enteritidis produce pink to red colonies. Specimen should be enriched in an appropriate selective enrichment broth. This enriched culture is then inoculated on Salmonella Differential Agar, Modified and incubated at 35-37°C for 24-48 hours.

Type of specimen

Clinical: faeces, urine, etc.; Food 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).

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 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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium
2. 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 stored at recommended temperature.

Quality Control

Appearance

Part A : Light yellow to light pink homogeneous free flowing powder Part B: Colourless viscous solution

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of Prepared medium

Light orange coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.1% w/v aqueous solution of Part A at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	≥50%	blue-green
<i>Klebsiella pneumoniae</i> ATCC 13883 (00097*)	50-100	luxuriant	≥50%	blue-violet
<i>Proteus mirabilis</i> ATCC 25933	50-100	luxuriant	≥50%	colourless
<i>Salmonella</i> Typhimurium ATCC 14028 (00031*)	50-100	luxuriant	≥50%	pink-red
<i>Salmonella</i> Enteritidis ATCC 13076 (00030*)	50-100	luxuriant	≥50%	pink-red
<i>Salmonella</i> Typhi ATCC 6539	50-100	luxuriant	≥50%	colourless
<i>Shigella flexneri</i> ATCC 12022 (00126*)	50-100	luxuriant	≥50%	colourless
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	≥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. Rambach A., 1990, Appl Environ. Microbiol., 56:301.
2. Lipps WC, Braun-Howland EB, Baxter TE, eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.
3. Greenwald R., Henderson R.W. and Yappaw 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.

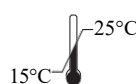
Revision : 04/2024



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



In vitro diagnostic
medical device



Storage temperature



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.