Salmonella Differential Agar / Modified (Twin pack) (RajHans Medium)

Recommended for identification and differentiation of *Salmonella* species from members of *Enterobacteriaceae*, especially *Proteus* species.

M1078/ M1082

Composition **	M1078	M1082
Ingredients	Grams/Litre	Grams/Litre
Part A :		
Peptone, special	8.00	8.00
Yeast extract	2.00	3.00
Sodium deoxycholate	1.00	1.00
Sodium chloride	—	5.00
B.C. indicator	2.00	2.00
Agar	12.00	12.00
Part B :		
Propylene glycol	10.00	10.00

Final pH (at 25°C) 7.3 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Directions

Suspend 10 grams of fluid Part B in 1000 ml distilled water. Add 25 grams of Part A (M1078) or 31 grams of Part A (M1082). Mix well and heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45- 50°C. Mix well before and pour into sterile Petri plates.

Principle and Interpretation

Salmonella Differential Agar media are slight modification of original formulation of Rambach (3) 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 (1) are based on lactose fermentation and hydrogen sulphide production.

Peptone special and yeast extract provides nitrogenous and carbonaceous compounds, long chain amino acid, vitamins and other essential growth 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 (2). Salmonellae produce acid from propylene glycol and on combining with the BC 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/ Salmonella Differential Agar, Modified and incubated at 35-37°C for 24-48 hours.

Type of specimen

Clinical : faeces, urine; Water samples and Food samples

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4, 5).

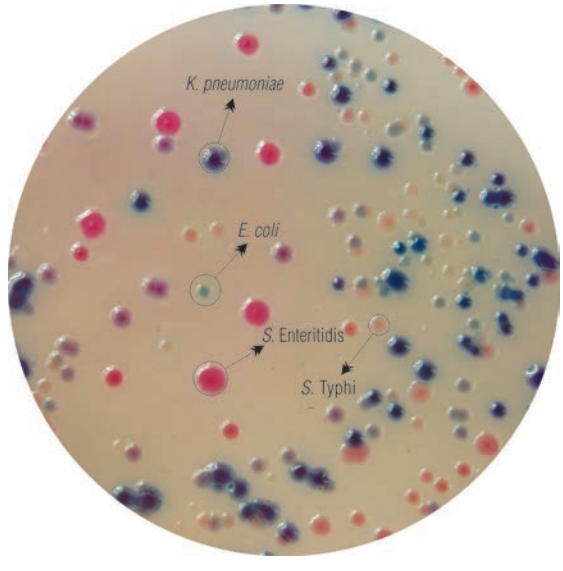
For food samples, follow appropriate techniques for sample collection and processing as per guidelines (6).

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 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.



M1082 – *Salmonella* Differential Agar Modified (Twin pack) (RajHans Medium)

HiCromeVeg™ Single Streak Rapid Differentiation Series *Freedom from BSE / TSE worries*

Salmonella Differential Agar / Modified (Twin pack) (RajHans Medium)(M1078/M1082) is also available as *Salmonella* Differential HiVeg™ Agar / Modified (Twin pack) (RajHans Medium) (MV1078/MV1082) wherein all the animal origin nutrients have been replaced by vegetable based nutrients.

Salmonella Differential Agar / Modified (Twin pack) (RajHans Medium)

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M1078/ M1082

Limitations

1. The medium is selective for *Salmonella* and may not support the growth of other microorganisms.
2. Most of the *Salmonella* strains shows pink-red colonies except few which may show colourless colonies.
3. Due to nutritional variations, some strains may show poor growth.
4. 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 recommended temperature.

Quality Control

Appearance of Powder : Part A : Light yellow to light pink coloured, 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 2.5% w/v Part A of M1078 or 3.1% w/v of Part A of M1082 aqueous solution at 25°C. pH : 7.3 ± 0.2.

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
Salmonella Enteritidis (13076) (00030*)	50-100	luxuriant	≥50%	pink-red
Salmonella Typhimurium (14028) (00031*)	50-100	luxuriant	≥50%	pink-red
Salmonella Typhi (6539)	50-100	luxuriant	≥50%	colourless
Escherichia coli (25922) (00013*)	50-100	luxuriant	≥50%	blue-green
Klebsiella pneumoniae (13883) (00097*)	50-100	luxuriant	≥50%	blue-violet
Proteus mirabilis (25933)	50-100	luxuriant	≥50%	colourless
Shigella flexneri (12022) (00126*)	50-100	luxuriant	≥50%	colourless
Staphylococcus aureus subsp aureus (25923) (00034*)	≥10^3	inhibited	0%	-

Key : * = corresponding WDCM Numbers

Storage and Shelf-life

Store between 2-8°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 inorder 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. 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 (4, 5).

References

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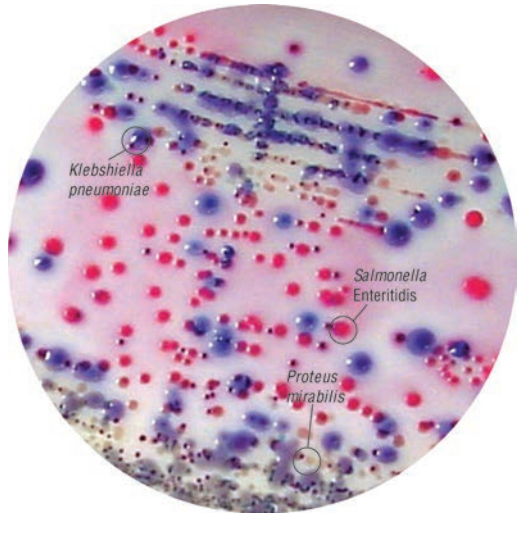

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