



PRODUCT SPECIFICATION SHEET

Salmonella Differential Agar, Modified (Twin Pack) (DM1379)

Intended Use

Salmonella Differential Agar, Modified (Twin Pack) (DM1379) is recommended for identification and differentiation of *Salmonella* species from the members of *Enterobacteriaceae*, especially *Proteus* species

Product Summary and Explanation

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

Principles of the Procedure

Salmonella Differential Agar, Modified contains peptone special and yeast extract which supports the luxuriant growth of bacteria. Sodium deoxycholate helps to inhibit gram-positive organisms making the medium selective for enteric microorganisms. Sodium chloride maintains the osmotic balance of the medium. The BC indicator turns pink in presence of acid produced from propyleneglycol. Lactose fermentating ability is determined by using an indicator which can detect the presence of enzyme β -galactosidase.

Formula / Liter

Ingredients	Gms / Liter
Part A	
Peptone, special	8.00
Yeast extract	3.00
Sodium deoxycholate	1.00
Sodium chloride	5.00
B. C. Indicator	2.00
Agar	12.00
Part B	
Propylene glycol	10.00
Final pH: 7.3 \pm 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 10 grams of fluid Part B in one liter of distilled water.
2. Add 31 grams of Part A. Mix well.
3. Heat to boiling, to dissolve the medium completely.
4. DO NOT AUTOCLAVE. Cool to 45 - 50°C.
5. Mix well and pour into sterile petri plates.

Quality Control Specifications

Dehydrated Appearance	Part A : Light yellow to light pink homogeneous free flowing powder Part B: Colourless viscous solution
Prepared Medium	Light orange coloured, clear to slightly opalescent gel forms in Petri plates
Reaction of 3.1% Solution	pH : 7.3 \pm 0.2 at 25°C
Gel Strength	Firm, comparable with 1.2% Agar gel



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

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Recovery	Colour of colony
1.	<i>Escherichia coli</i> ATCC 25922	50 - 100	good-luxuriant	≥50%	blue-green
2.	<i>Klebsiella pneumonia</i> ATCC 13883	50 - 100	good-luxuriant	≥50%	blue-violet
3.	<i>Proteus mirabilis</i> ATCC 25933	50 - 100	good-luxuriant	≥50%	colourless
4.	<i>Salmonella Typhimurium</i> ATCC 14028	50 - 100	good-luxuriant	≥50%	pink-red
5.	<i>Salmonella Enteritidis</i> ATCC 13076	50 - 100	good-luxuriant		pink-red
6.	<i>Salmonella Typhi</i> ATCC 6539	50 - 100	good-luxuriant	≥50%	Colourless
7.	<i>Shigella flexneri</i> ATCC 12022	50 - 100	good-luxuriant	≥50%	colourless
8.	<i>Staphylococcus aureus</i> ATCC 25923	50 - 100	inhibited	0%	--

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for standard test procedures.

Results

1. Lactose fermenting (β -galactosidase producing) bacteria yield blue violet coloured colony.
2. *Salmonellae* produce acid from propyleneglycol and which on combining with the pH indicator gives typical pink red colonies.
3. Other enteric gram-negative bacteria form colourless colonies.
4. *Salmonella typhimurium* and *Salmonella enteritidis* produce pink to red colonies.

Storage

Store the sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : *Salmonella* Differential Agar, Modified (Twin Pack)

Product Code : DM1379

Available Pack sizes : 100gm/ 500gm

References

1. Rambach A., 1990, Environ. Microbiol., 56:301.
2. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C



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Further Information

For further information please contact your local MICROMASTER Representative.



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DM1379P55, QAD/FR/024,Rev.00

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