

# Modified Salmonella Shigella Agar

Cat. 1186

Selective medium for the isolation of Salmonella and Shigella.

## Practical information

Applications	Categories
Selective isolation	Salmonella
Selective isolation	Shigella

Industry: Clinical

## Principles and uses

Modified Salmonella Shigella Agar is a selective and differential medium widely used in sanitary bacteriology to isolate Salmonella and Shigella from feces, urine and fresh and canned foods.

Modified Salmonella Shigella Agar is an improved formula of Salmonella Shigella Agar (SS Agar) (Cat.1064). Modified Salmonella Shigella Agar yields more Salmonellas and Shigellas and inhibits more Escherichia coli and Shigella sonnei colonies are pink, making the differentiation of Salmonella easier.

Animal tissue peptic digest, Beef extract and Pancreatic digest of casein provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium thiosulfate and Ferric ammonium citrate allow the detection of the H<sub>2</sub>S producing bacteria such as some strains of Salmonella, as they produce colonies with black centers and a clear halo. Lactose and sucrose are the fermentable carbohydrates providing carbon and energy. Inhibition of Gram-positive microorganisms is obtained by the bile salts mixture. Bacteriological agar is the solidifying agent.

## Formula in g/L

Bacteriological agar	15	Bile salts	5
Bromocresol purple	0,01	Ferric ammonium citrate	1
Lactose	10	Beef extract	3
Neutral red	0,02	Pancreatic digest of casein	4
Peptic digest of animal tissue	4	Sodium citrate	5
Sodium thiosulfate	2	Sucrose	10

## Preparation

Suspend 59 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. AVOID OVERHEATING. DO NOT AUTOCLAVE. Cool to 45-50°C, mix well and dispense into plates.

## Instructions for use

- Inoculate the prepared sample into Modified Salmonella Shigella Agar plates by the appropriate technique.
- Incubate the plates at 35±2 °C during 18- 24 hours.
- Modified Salmonella Shigella Agar should be streaked in parallel with other less inhibitory media due to its strong inhibitory power such as Desoxycholate Agar (Cat. 1020), MacConkey Agar (Cat. 1052), Eosin Methylene Blue (EMB) Agar (Cat. 1039), XLD Agar (Cat. 1080), and Hektoen Enteric Agar (Cat. 1030).
- Non-lactose fermenting bacteria (supposed pathogens) produce clear colonies, transparent or colorless, while coliforms are sufficiently inhibited, and form small colonies that vary from pink to red in color.

## Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rest	Fine powder	Beige-pink	Red-orange	7,4 ± 0,2

## Microbiological test

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Incubation conditions: (35±2 °C / 18-24 h)

Microorganisms	Specification	Characteristic reaction
Salmonella enteritidis ATCC 13076	Good growth	Colorless colony
Salmonella typhimurium ATCC 14028	Good growth	Colorless colony
Escherichia coli ATCC 25922	Inhibited growth	
Shigella sonnei ATCC 25931	Good growth	Pink colony
Salmonella typhi ATCC 6539	Good growth	Colorless colony

## Storage

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Temp. Min.:2 °C  
Temp. Max.:25 °C

## Bibliography

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Pub. Health Reports. 65:1075. 1950. Paper Read at Microbiological Congress, 1950.  
Proc. 22nd Ann. Meet. Northeastern Conf. Lab. Workers in Pullorum Disease Control Burlington, Vermont, June 20-21. 1950. ISO 6579:2002.