

## Salmonella Shigella (SS) Agar (NCM0046)

### Intended Use

Salmonella Shigella (SS) Agar is used for the isolation of *Salmonella* spp. and some strains of *Shigella* spp. Salmonella Shigella (SS) Agar is not intended for use in the diagnosis of disease or other conditions in humans.

### Description

Salmonella Shigella (SS) Agar is a modification of the Deoxycholate Citrate Agar described by Leifson. Salmonella Shigella Agar is superior to a number of other media for the isolation of *Salmonella* spp. and *Shigella* spp. Salmonella Shigella (SS) Agar is recommended for testing food samples for the presence of *Salmonella* spp. and some *Shigella* spp.

### Typical Formulation

Beef Extract	5.0 g/L
Enzymatic Digest of Casein	2.5 g/L
Enzymatic Digest of Animal Tissue	2.5 g/L
Lactose	10.0 g/L
Bile Salts	8.5 g/L
Sodium Citrate	8.5 g/L
Sodium Thiosulfate	8.5 g/L
Ferric Citrate	1.0 g/L
Brilliant Green	0.00033 g/L
Neutral Red	0.025 g/L
Agar	13.5 g/L

Final pH: 7.0 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

### Precaution

Refer to SDS

### Preparation

1. Suspend 60 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE
4. Cool to 45-50°C.

### Test Procedure

Consult appropriate references for food testing.

### Quality Control Specifications

**Dehydrated Appearance:** Powder is homogeneous, free-flowing, and light to medium pinkish-beige.

**Prepared Appearance:** Prepared medium is red-orange to peach and trace to slightly hazy.

# Technical Specification Sheet



**Expected Cultural Response:** Cultural response incubated aerobically at 37 ± 1°C and examined for growth after 18 - 48 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results	
		Recovery	Reaction
<i>Enterococcus faecalis</i> ATCC® 29212	>10 <sup>4</sup>	Partial to Complete Inhibition	If recovered, pink to rose-red colonies which may have bile precipitate
<i>Escherichia coli</i> ATCC® 25922	>10 <sup>4</sup>	Complete Inhibition	---
<i>Proteus mirabilis</i> ATCC® 12453	4 Quad Streak	Growth	Colorless colonies with black centers
<i>Salmonella enteritidis</i> ATCC® 13076	50-200	≥70%	Colorless colonies with black centers
<i>Salmonella typhimurium</i> ATCC® 14028	50-200	≥70%	Colorless colonies with black centers
<i>Shigella sonnei</i> NCTC 8574	4 Quad Streak	Growth	Colorless colonies

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

## **Results**

Enteric organisms are differentiated by their ability to ferment lactose. *Salmonella* spp. and *Shigella* spp. are non-lactose fermenters and form colorless colonies on Salmonella Shigella Agar. H<sub>2</sub>S positive *Salmonella* spp. produce black-center colonies. Some *Shigella* spp. are inhibited on Salmonella Shigella Agar. *E. coli* produces pink to red colonies and may have some bile precipitation.

## **Expiration**

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color.

## **Limitations of the Procedure**

1. Salmonella Shigella Agar is highly selective and not recommended as the primary isolation of *Shigella*. Some *Shigella* spp. may be inhibited.
2. A few nonpathogenic organisms may grow on Salmonella Shigella Agar. These organisms can be differentiated by their ability to ferment lactose and other confirmatory tests.

## **Storage**

Store dehydrated culture media at 2 – 30°C away from direct sunlight. Once opened and recapped, place the container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.



## References

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3. Rose, H. M., and M. H. Kolodny. 1942. The use of SS (*Shigella-Salmonella*) Agar for the isolation of Flexner Dysentery bacilli from the feces. J. Lab. Clin. Med. 27:1081-1083.
4. Isenberg, H. D. (ed.). 1992. Interpretation of aerobic bacterial growth on primary culture media, Clinical microbiology procedures handbook, vol. 1 p. 1.61-1.67. American Society for Microbiology, Washington, D.C.
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6. Taylor, W. I., and B. Harris. 1965. Isolation of shigellae. II. Comparison of plating media and enrichment broths. Am. J. Clin. Pathol. 44:476.
7. McFaddin, J. F. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, Vol. 1. Williams & Wilkins, Baltimore, MD.