

PRODUCT INFORMATION

Salmonella Shigella Agar

Cat. No. S19-103

DESCRIPTION

Salmonella Shigella Agar (SS 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.

Due to its strong inhibitory power, a heavy inoculum can be used in the SS agar. It must also be streaked in parallel, in less selective media such as Deoxycholate Agar, MacConkey Agar, Methylene Blue Eosin Agar (EMB), XLD Agar and Enteric Hektoen Agar, to increase the probability of detection when the population of microorganisms is scarce.

Beef extract and peptone mixture provide nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. Bile salts mixture, sodium citrate and brilliant green inhibit Gram-positive bacteria, most coliform bacteria and swarming Proteus spp., while allowing Salmonella spp to grow. Neutral red is the pH indicator. Sodium thiosulfate and ferric citrate allow the detection of the H₂S producing bacteria.

Non-lactose fermenting bacteria (supposed pathogens, such as Shigella and the majority of salmonellae) produce clear colonies, transparent or colorless, while coliforms like E. coli are sufficiently inhibited, and form small colonies that vary from pink to red in color.

Enterobacter and Klebsiella bacteria will produce larger colonies than E.coli, mucoid, pale and opaque cream to pink in colour. Colonies from Proteus and some strains of Salmonella will present black centers and a clear halo.

This formulation, highly selective, is not recommended for the primary isolation of Shigella. Some Shigella spp. may be inhibited.

FORMULA (g/L)

Beef extract	5.0 g	Agar	12.9 g
Lactose	12.9 g	Casein peptone	4.0 g
Peptic digest of animal tissue (bovine)	4.0 g	Citric acid	3.5 g
Bile salts	4.0 g	Neutral red	0.02 g
Sodium thiosulfate	8.9 g	Magnesium sulfate	1.0 g
Ferric ammonium citrate	1.5 g	Yeast extract	2.5 g
L-Tartaric acid	0.05 g		

Final pH: 7.0 ± 0.2 at 25 °C

*Grams per liter may be adjusted or formula supplemented to obtain desired performance.

PREPARATION

Suspend 60 grams of the medium in one liter of distilled water. Mix well until a homogeneous suspension is obtained. Heat with frequent agitation and boil for one minute until complete dissolution. DO NOT AUTOCLAVE. Cool to 45-50 °C and distribute in Petri dishes.

QUALITY CONTROL SPECIFICATIONS

1. The powder is homogenous, free flowing and beige-pink.
2. Visually the prepared medium is red-orange without rests.
3. Expected cultural response after 18-48 hours at 35 °C ± 2°C.

ORGANISM	GROWTH	CHARACTERISTIC REACTION
<i>Shigella flexneri</i> ATCC 12022	Good Growth	Colorless colony
<i>Klebsiella aerogenes</i> ATCC 13048	Partially inhibited growth	Cream-pink colony
<i>Salmonella enteritidis</i> ATCC 13076	Good Growth	Colorless with black center colony
<i>Salmonella typhimurium</i> ATCC 14028	Good Growth	Colorless with black center colony
<i>Enterococcus faecalis</i> ATCC 19433	Inhibited Growth	-
<i>Escherichia coli</i> ATCC 25922	Inhibited Growth	-
<i>Salmonella typhi</i> ATCC 6539	Good Growth	Colorless with black center colony



STORAGE

Store the sealed bottle containing the dehydrated medium at 2 to 25°C. Once opened and recapped, place the container in a low humidity environment at the same storage temperature. Protect it from moisture and light. The dehydrated medium should be discarded if it is not free flowing or if the color has changed from the original color.

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