Spectrum For Diagnostic Industries

Salmonella Shigella Agar (SS Agar)

REF.	Pack size
642 01 100	100 gm
642 01 500	500 gm

Intended Use

Salmonella Shigella Agar is used for the isolation of Salmonella spp. and some strains of Shigella spp.in faeces and sterile urine.

Background

SS Agar is a modification of Deoxycholate Citrate Agar described by Leifson and is an example of media used in the plating of samples for the detection of enteric pathogens that contain bile salt mixtures. SS Agar is used in the performance of microbial limit tests and for the examination of foods.

Principle

Peptone and beef extract provide sources of carbon, nitrogen and other growth factors. Brilliant green, bile salt mixture, thiosulphate and citrates selectively inhibit gram-positive organisms and coliforms. Lactose is the fermentable carbohydrate.Sodium thiosulphate and ferric citrate enable the detection of H_2S production.

Components	gm/Liter
Sodium Citrate	10.0
Bile Salts Mixture	8.5
Sodium Thiosulphate	8.5
Peptone	5.0
Beef Extract	5.0
Ferric Citrate	1.0
Neutral Red	0.025
Brilliant Green	0.00033
Lactose	10.0
Agar	15.0

Final pH (at 25°C) 7.0 ± 0.2

Preparation, Storage and Stability

Store the dehydrated medium at 10-30°C and use before the expiry date on the label.Store the prepared medium at 2-8°C After the desired amount of medium is taken out, replace the cap tightly to protect from hydration.

Procedure

1. Suspend 63 g of the powder in 1 L distilled water and mix well.

2.Boil with frequent agitation to dissolve the powder completely.

3. Avoid overheating and dont autoclave.

4. Cool the medium to approximately 45-50°C, pour into sterile petri plates.

5. Allow the plates to dry for about 2 hours with the covers partially removed under aseptic conditions.

Quality Control

Appearance

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

2- Prepared Appearance : Prepared medium is reddish-orange to peach and slightly hazy.

3- Cultural Response : Cultural characteristics after incubation at 35 ±2°C for 18-24 hours.

Organisms (ATCC)	Growth	Color of colony
Escherichia coli	Partial inhibition	Pink with bile precipitate
Enterococcus faecalis	Partial inhibition	Colourless
Salmonella enteritidis	Good to luxuriant	Colourless with black centre
Shigella flexneri	Good to luxuriant	Colourless without black center

Interpretation of the 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_2S 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.

Precautions

1. This medium is highly selective; some strains of S*higella* may not grow on it and therefore must not be used for primary isolation of shigellae.

Bibliography

1. Downes and Ito (ed.) 2001, Compendium Of Methods For The Microbiological Examination Of Foods, 4th edition, APHA Washington DC.

2. Leifson. 1935. J. Pathol. Bacteriol.

3. Taylor and Harris. 1965. Am. J. Clin. Pathol
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4. Pollock and Dahlgren. 1974. Appl. Microbiol.

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