Salmonella-Shigella Agar, SS Agar | AS-1354

Used for isolating *Salmonella* and some *Shigella*.

SS Agar is a selective and differential culture medium which is commonly used to isolate *Salmonella* and *Shigella* species from food and clinical samples. It is developed to promote the growth of enteric pathogens while preventing the growth of Gram-positive bacteria and most *coliforms*.

Bile salts, brilliant green, and sodium citrate are used in the medium as selective agents to make the medium inhibitory to undesirable bacteria. Lactose is a carbohydrate that helps distinguish lactose fermenters from non-fermenters, whereas peptones offer a supply of nitrogen. In order to identify hydrogen sulfide generation, which is a trait of some *Salmonella* serotypes, sodium thiosulfate and ferric citrate are added. Lactose fermenters, or pink colonies, are distinguished from non-fermenters, or colorless colonies, by the pH indicator neutral red.

Shigella colonies are normally colorless, however *Salmonella* colonies frequently create colorless to black colonies (because of the creation of hydrogen sulfide). Nonetheless, using biochemical and serological testing to validate the identity of suspected colonies is crucial.

SS Agar has limits even though it's a useful tool for isolating *Shigella* and *Salmonella*. Other intestinal pathogens may sporadically develop on the medium, and certain strains of these pathogens may display unusual colony morphologies. For a conclusive identification, it is therefore advised to employ extra selective and differential media in addition to biochemical and serological testing.

Composition (gr/L)

Lactose	10
Bile salts	8.5
Sodium Thiosulfate	8.5
Sodium Citrate	8.5
Beef Extract	5
Pancreatic digest of Casein	2.5
Peptic digest of animal tissue	2.5
Ferric citrate	1
Neutral Red	0.025
Brilliant Green	0.00033
Agar	13.5
Final pH at 25°C	7.0 ± 0.2

Preparation

Dissolve 50 g of the powder into 1 liter distilled water. Mix well. Heat the medium to boiling for no more than 2 to3 minutes to dissolve completely. DO NOT AUTOCLAVE and OVERHEAT. Cool to 45-50°C in a water bath.

Quality Control

Dehydrated Appearance: Very light buff to pink, free-flowing, homogeneous.

Prepared Appearance: Red-orange, slightly opalescent.

Reaction of 6.0% Solution at 25°C: pH 7.0 ± 0.2

Microbial Test Results

Incubate at 35 to 37 °C for 24 hours.

Organism (ATCC)	Recovery	Colony color	H2S
Enterococcus faecalis (29212)	Partial inhibition	Colorless	-
Escherichia coli (25922)	Partial inhibition	Pink to red	-
Salmonella enterica (14028)	Good	Colorless	+
Shigella flexneri (12022)	Fair to good	Colorless	-

Storage

Keep the container at 15-30 °C and prepared medium at 2-8 °C.