SS AGAR (SALMONELLA SHIGELLA AGAR) (VEG.) TMV 386

For differential and selective isolation of *Salmonella* and *Shigella* species from pathological samples

Composition

Ingredients	Gms/Ltr.
Agar	15.00
Sodium citrate	10.00
Lactose	10.00
Synthetic extract	8.50
Sodium thiosulphate	8.50
Veg. BE extract	5.00
Veg. Extract	5.00
Ferric citrate	1.00
Neutral red	0.025
Brilliant green	0.00033

* Dehydrated powder, hygroscopic in nature, store, in a dry place in tightly- sealed containers below 25°C and protect from direct Sunlight.

Instructions for Use

Dissolve 63.00gms in 1000ml of distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. **DO NOT AUTOCLAVE**. Cool to 45 – 50°C and distribute into sterile Petri plates. Allow the medium to solidify partially uncovered.

Appearance: Red orange in colour
pH (at 25^{0}C): 7.0 ± 0.2

Principle

SALMONELLA SHIGELLA AGAR (SS AGAR) (VEG.) is used for differential and selective isolation of *Salmonella* and *Shigella* species. This medium consists of Veg. BE extract and Veg. Extract provides nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. Synthetic extract and Sodium citrate inhibit Gram-positive bacteria, most coliform bacteria and swarming *Proteus* spp., while allowing *Salmonella* spp to grow. Brilliant green and high concentrations of Sodium thiosulphate and citrate largely inhibit the accompanying microbial flora. Sulphide production is detected by using thiosulphate and iron ions, the colonies turn black. The presence of coliform bacteria is established by detecting degradation of lactose to acid with the pH indicator neutral red. Neutral red is the pH indicator. 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. The plates of the medium can be kept for at least a week in refrigeration. This formulation, highly selective, is not recommended for the primary isolation of *Shigella*. Some *Shigella* spp. may be inhibited.

Interpretation

Cultural characteristics observed after inoculating (10^3CFU/ml), on incubation at 35 ± 2°C for 18 - 24 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Appearance of colony

Escherichia coli	25922	10^3	Inhibited	----------
Salmonella typhimurium	14028	10^3	Good	Colourless with black center
Salmonella typhi	6539	10^3	Good	Colourless with black center
Shigella flexneri	12022	10^3	Good	Colourless

References

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