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SALMONELLA SHIGELLA AGAR (SS AGAR) TM 386

INTENDED USE

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

COMPOSITION

Ingredients	Gm\Ltr.
Agar	15.000
Sodium citrate	10.000
Lactose	10.000
Bile salts	8.500
Sodium thiosulphate	8.500
Beef extract	5.000
Peptic digest of animal tissue	5.000
Ferric citrate	1.000
Neutral red	0.025
Brilliant green	0.00033

PRODUCT SUMMARY AND EXPLANATION

SS Agar was originally developed as a selective medium for the isolation of *Salmonella* and *Shigella* species. It was also developed to aid in the differentiation of lactose and non-lactose-fermenters from clinical specimens, suspected foods, and other such samples. SS Agar medium is recommended as differential and selective medium for the isolation of *Salmonella* and *Shigella* species from pathological specimens and suspected foodstuffs and for microbial limit test. Salmonella Shigella Agar is a modification of the Deoxycholate-Citrate Agar described by Leifson. It is designated as a moderately selective medium based upon the degree of inhibition of gram-positive microorganisms and Enterobacteriaceae other than *Salmonella* and *Shigella*, which it inhibits due to its content of bile salts, brilliant green and citrates.

PRINCIPLE

This medium consists of Beef extract and Peptic digest of animal tissue provide nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. Bile salts 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.

INSTRUCTION FOR USE

1. Dissolve 63.00gms in 1000ml of distilled water.
2. Gently heat to boiling with gentle swirling and dissolve the medium completely.
3. DO NOT AUTOCLAVE.
4. Cool to 45 – 50°C and distribute into sterile petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder: Light yellow to pink colour, homogeneous mixture, free flowing powder

Appearance of prepared medium: Red orange in colour, clear to slightly opalescent gel

pH (at 25°C): 7.0 ± 0.2

INTERPRETATION

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

Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Recovery (%)	Appearance of colony
Salmonella typhimurium	14028	50-100	Luxuriant	≥ 50%	Colourless with black centers
Salmonella typhi	6539	50-100	Luxuriant	≥ 50%	Colourless with black centers
Shigella flexneri	12022	50-100	Good	40 - 50%	Colourless colonies
Proteus mirabilis	25933	50-100	Fair	30 - 40%	Colourless colonies may have black centers
Escherichia coli	25922	50-100	Fair	20-30 %	Pink colonies with bile ppt.
Enterococcus faecalis	29212	50-100	Poor	≤ 10%	Colourless colonies

STORAGE & STABILITY

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4

years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

REFERENCES

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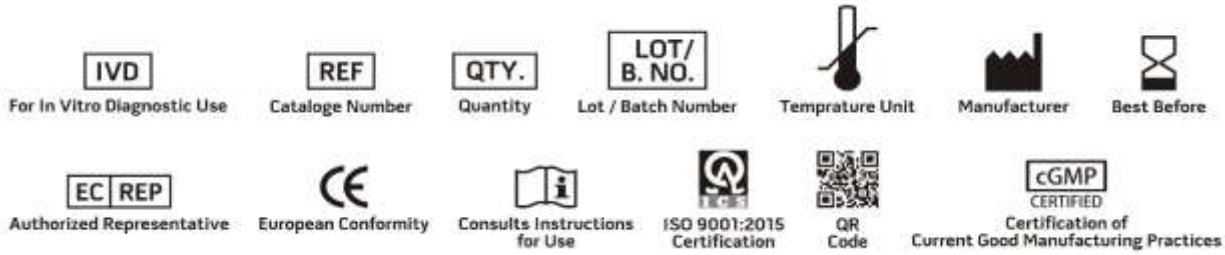
3. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
4. Eaton A. D., Clesceri L. S., Rice E. W., and Greenberg A. W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
5. Williams S., (Ed.), 2005, Official Methods of Analysis of the Association of Official Analytical Chemists, 19th Ed., AOAC, Washington, D.C.
6. The United States Pharmacopoeia, 2006, USP29/NF24, The United States Pharmacopoeial Convention. Rockville, MD.
7. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.