Salmonella Shigella Agar RDM-SSA-01

Principle
Salmonella Shigella agar composed of proteose peptone, meat extract, lactose, bile salts, sodium citrate, sodium thio-sulphate, ferric citrate, neutral red, brilliant green and agar. Proteose peptone and meat extract provide essential growth nutrients. Lactose is the fermentable carbohydrate. Brilliant green, bile salts and thiosulphate provide selectively and inhibit gram-positive and coliform organisms. Certain organisms reduce sodium thiosulphate to sulphite and H_2S gas. Sodium thiosulfate and ferric citrate allow the detection of hydrogen sulfide by the production of colonies with black centers. Neutral red and brilliant green are present as pH indicators.

Use: Recommended for the selective isolation and determination of *Salmonella* and some *Shigella* sp. from clinical and non-clinical samples.

Contents*

Ingredients	**Gram/Litre**
Proteose peptone	5.000
Meat extract#	5.000
Lactose	10.000
Bile salts mixture	8.500
Sodium citrate	8.500
Sodium thio-sulphate	8.500
Ferric citrate	1.000
Neutral red	0.025
Brilliant green	0.033
Agar	13.500
pH at 25˚C	7.0 ±0.2

* Formula adjusted for optimum performance and parameters
# Equivalent to beef extract

Directions: Dissolve 60.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely for sterilization. **DO NOT AUTOCLAVE**, cool it to 42-45 °C and distribute aseptically in to the plates. Ensure complete solidification and inoculate aseptically.

Specimens types analyzed
Pharmaceutical samples, clinical and non-clinical samples etc.

Precautions to be taken
These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation
The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	light buff to pink colored free flowing, homogeneous powder
Reaction of 6.0% solution	7.0 ±0.2 at 25 ˚C
pH	6.80- 7.20
Gelling	Firm comparable with 1.35% agar gel
Color and clarity of ready medium	Red-orange, slightly opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 ºC for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response

Organism	Inoculum	Growth	Color	Recovery	Incubation Temperature
Salmonella typhimurium (ATCC 14028)	50-100	Good	Black centered colorless	70-80%	33-37ºC
Shigella flexneri (ATCC 12022)	50-100	Good	Colorless	70-80%	33-37ºC
Escherichia coli (ATCC 8739)	50-100	Fair	Pink to colorless with bile precipitate	30-40%	33-37ºC

Storage and Shelf Life

Hygroscopic; keep container tightly closed. Store in cool dry place.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), *Standard methods for the examination of water and wastewater*. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.
4. Wehr H. M. and Frank J. H., (2004), *Standard Methods for the Microbiological Examination of Dairy Products*, 17th Ed., APHA Inc., Washington, D.C