

SS AGAR

Recommended for differential and selective isolation of Salmonella and Shigella species from pathological specimens, suspected foodstuffs etc.

REF: BS.1/SSP01.010.0010

10 plates

CLINICAL SIGNIFICANCE

Salmonella-Shigella (SS) agar is a selective and differential medium. It is used for the isolation, cultivation and differentiation of gram-negative enteric microorganisms isolated from both clinical and non-clinical specimens such as from feces, urine, and suspected food items (fresh and canned foods). This medium is not recommended for the primary isolation of Shigella as some of Shigella strains may not grow on SS agar due to relatively high level of selectivity.

METHOD PRINCIPLE

The presence of bile salts mixture and dyes (brilliant green) inhibits the growth of gram-positive species to a varying degree. Differentiation of enteric organisms is achieved by the incorporation of lactose in the medium. Organisms which ferment lactose produce acid which, in the presence of the neutral red indicator, results in the formation of red/pink colonies. Lactose non-fermenters form colorless colonies. The latter group contains the majority of the intestinal pathogens, including Salmonella and Shigella. The sodium thiosulfate and ferric citrate enable the detection of hydrogen sulfide production as evidenced by colonies with black centers.

MEDIA COMPOSITION

| Item | Concentration g/l |
|---------------------|-------------------|
| Peptone | 5.000 |
| Beef Extract | 5.000 |
| Lactose | 10.000 |
| Bile salts mixture | 8.500 |
| Sodium citrate | 10.000 |
| Sodium thiosulphate | 8.500 |
| Ferric citrate | 1.000 |
| Brilliant green | 0.00033 |
| Neutral red | 0.025 |
| Agar | 15.000 |
| Final pH (at 25°C) | 7.0±0.2 |

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.

- Respect country requirement for waste disposal.
S56: dispose of this material and its container at hazardous or special waste collection point.
S57: use appropriate container to avoid environmental contamination.
S61: avoid release in environment.

For further information, refer to the SS agar material safety data sheet.

Directions

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Final pH after sterilization 7.0 ± 0.2 at 25°C

STORAGE AND STABILITY

BioScien SS Agar Plates should be stored On receipt between 20-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Deterioration

The color of **BioScien** SS Agar plate medium is Reddish orange coloured medium. If there are any physical changes or signs of deterioration (shrinking, cracking, or discoloration), and contamination discard the medium..

SPECIMEN COLLECTION AND PRESERVATION

Speciment type: Clinical: faeces, rectal swabs, etc.; Suspected food stuffs.

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines.

For clinical samples follow appropriate techniques for handling specimens as per established guidelines. After use, contaminated materials must be sterilized by autoclaving before discarding.








EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile loops
- ☐ Incubator

CHARACTERISTICS OF THE COLONIES

After the incubation period examine plates for organisms of interest. When examining primary plates a hand lens or stereoscopic microscope should be available for examining very small colonies. The different types of colonial morphology appearing on the agar plate should be noted as well as the number of each morphotype present.

| SS Agar | Expected results |
|---|-----------------------------------|
| <i>Escherichia coli</i> ATCC 25922 | pink with bile precipitate |
| <i>Enterobacter aerogenes</i> ATCC 13048 | cream pink |
| <i>Enterococcus faecalis</i> ATCC 29212 | colourless |
| <i>Proteus mirabilis</i> ATCC 25933 | colourless, may have black centre |
| <i>Salmonella choleraesuis</i> ATCC 12011 | colourless with black centre |
| <i>Salmonella Typhi</i> ATCC 6539 | colourless with black centre |
| <i>Salmonella Typhimurium</i> ATCC 14028 | colourless with black centre |
| <i>Salmonella Enteritidis</i> ATCC 13076 | colourless with black centre |
| <i>Shigella flexneri</i> ATCC 12022 | colourless |

| SYMBOLS IN PRODUCT LABELLING | | | |
|---|-----------------------------|---|----------------------------------|
| IVD | For in-vitro diagnostic use |  | Number of <n> test in the pack |
| LOT | Batch Code/Lot number |  | Caution |
| REF | Catalogue Number |  | Do not use if package is damaged |
|  | Temperature Limitation |  | Consult Instruction for use |
|  | Expiration Date | | |
|  | Manufactured by | | |



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QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

PERFORMANCE CHARACTERISTICS ⁽⁴⁾

Performance of the medium from type cultures after incubation at a temperature of 35 ± 2°C, under 5 - 10% CO₂, and observed after 24 - 72 hours. (It is recommended to grow *Aspergillus brasiliensis* and *Saccharomyces cerevisiae* aerobically at 30 ± 2°C).

| Test Organisms | Growth |
|---|----------------|
| <i>Escherichia coli</i> ATCC 25922 | fair |
| <i>Enterococcus faecalis</i> ATCC 29212 | None-poor |
| <i>Salmonella choleraesuis</i> ATCC 12011 | good-luxuriant |
| <i>Shigella flexneri</i> ATCC 12022 | Good |
| <i>Salmonella Typhimurium</i> ATCC 14028 | good-luxuriant |

REFERENCES

- Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
- 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.
- MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
- Lennette and others (Eds.), 1985, Manual of Clinical Microbiology, 4th ed., ASM, Washington, D.C.