

Specification

Differential and selective solid medium for the isolation of *Salmonella* and some *Shigella* species from clinical specimens, foods, etc.

Presentation

	Packaging Details	Shelf Life	Storage
20 Prepared Plates 90 mm with: 21 ± 2 ml	1 box with 2 packs of 10 plates/pack. Single cellophane..	3 months	2-14°C

Composition

Composition (g/l):

Meat extract.....	5.00000
Peptone.....	5.00000
Lactose.....	10.00000
Bile salts.....	5.60000
Sodium citrate.....	10.00000
Sodium thiosulfate.....	8.50000
Ferric citrate.....	1.00000
Brilliant green.....	0.00033
Neutral red.....	0.02500
Agar.....	15.00000

Description /Technique

Description:

SS Agar is a highly selective agar used for the isolation of *Salmonella* and *Shigella* species from very contaminated samples. Selectivity is obtained by a high concentration of bile salts and brilliant green, which inhibits the growth of Gram positive bacteria. The growth of other Gram negative flora is highly repressed due to the presence of citrate and thiosulfate. Some coliforms may still grow on this medium. Differentiation between pathogenic species and coliforms is achieved by the colour change of the pH indicator (neutral red). Lactose fermenters produce a pink or red coloured medium and colonies, while non-fermenting species form colourless colonies and turn the medium yellow. Should any species produce H₂S, it is easily detected by the black precipitate of ferrous sulfide, which turn the colonies black.

The peptone and the meat extract are capable of inducing the growth of most pathogenic species, nevertheless some *Shigella* are very fastidious and may grow poorly.

Technique:

If it is suspected that organisms might have been damaged and the viability of the microorganisms is poor i.e. (processed food, faeces from the patients under antibiotic treatment, etc.) it is advisable to proceed with a prior enrichment in Selenite-Cystine Broth Base or Tetrathionate Broth Base. After enrichment, inoculate SS Agar plates heavily with the specimen and proceed in the same way as with other specimens on a less selective medium, such as Brilliant Green Agar or MacConkey Agar.

Incubate the inoculated plates at 37°C for 18-24 hours. The presumptive colonies should then be sub-cultured on differential media to be identified biochemically or serologically.

Appearance of the colonies after 24 hours on SS Agar:

- *Shigella*: Colourless, transparent and flat.
- *Salmonella* (Non H₂S producers): Colourless, transparent and flat.
- *Salmonella* (H₂S producers): Black or black centred, flat, with transparent borders.
- *Proteus*: Similar appearance as *Salmonella* colonies, but smaller in size.
- *Escherichia coli*: If they grow, they are small, convex and pink or red coloured.
- Coliforms (in general): Large, opaque, smooth and white or pink in colour.

Each laboratory must evaluate the results according to their specifications.

Quality control**Physical/Chemical control**

Color : Pink

pH: 6.9 ± 0.2 at 25°C**Microbiological control**Inoculate: Practical range 100 ± 20 CFU; Min. 50 CFU (Productivity)/ 10^4 - 10^6 (Selectivity).

Microbiological control according to ISO 11133:2014/ Adm 1:2018.

Aerobiosis. Incubation at $37 \text{ }^\circ\text{C} \pm 1$, reading after 24 ± 3 h**Microorganism***Escherichia coli* ATCC® 25922, WDCM 00013*Salmonella enterica* ATCC® 13076, WDCM 00030*Shiella flexneri* ATCC® 12022, WDCM 00126*Enterococcus faecalis* ATCC® 29212, WDCM 00087*Salmonella typhimurium* ATCC® 14028, WDCM 00031**Growth**

Inhibited

Good ($\geq 50 \%$)Good $\geq 30\%$ Colourless colonies w/o SH

Inhibited

Good ($\geq 50 \%$)**Sterility Control**

Incubation 48 hours at 30-35°C and 48 hours at 20-25°C: NO GROWTH

Check at 7 days after incubation in same conditions

Bibliography

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