

Selenite F Broth**(M1570)**

Selenite F Broth is used as an enrichment medium for the isolation of *Salmonella* species from faeces, urine, water and foods.

Composition

Ingredients	g/ L
Tryptone	5.00
Lactose	4.00
Sodium phosphate	10.00
Sodium Hydrogen Selenite	4.00

Description

Selenite-F Broth was devised by Leifson, who demonstrated that selenite was inhibitory for coliforms and certain other microbial species, such as fecal streptococci, present in fecal specimens. Selenite Broth is useful for detecting *Salmonella* in the non-acute stages of illness and beneficial in the recovery of pathogens are present in a very small number in the intestinal flora. Selenite Broth is useful for detecting *Salmonella* in the non-acute stages of illness.

F in **Selenite F Broth** is **Faeces**, because it is mostly used for the isolation of *Salmonella* and *Shigella* from faecal specimens.

Tryptone provides nitrogenous substances. Lactose maintains the pH of medium. Selenite is reduced by bacterial growth and alkali is produced. An increase in pH lessens the toxicity of the selenite and results in overgrowth of other bacteria.

The acid produced by bacteria due to lactose fermentation serves to maintain a neutral pH. Sodium phosphate maintains stable pH and also lessens the toxicity of selenite. Enriched broth is subcultured on differential plating media such as XLD Agar. Do not incubate the broth longer than 24 hours as inhibitory effect of selenite decreases after 6 - 12 hours of incubation.

Type of specimen

Clinical samples : faeces, urine or other pathological materials.

Specimen Collection and Handling

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

Warning and Precautions

In Vitro diagnostic use only. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture.

Limitations

1. Selenite Broth is inhibitory and recommended for selective isolation of *Salmonella* species.
2. Do not incubate the broth longer than 24 hours as inhibitory effect of selenite decreases after 6 - 12 hours of incubation.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality control**Physical/Chemical control**

Color : Cream to yellow coloured clear solution without any precipitate

pH: 6.80-7.20

Cultural Response

Cultural characteristics observed when subcultured on MacConkey Agar after an incubation at 35-37°C for 18-24hours.

Microbiological activity

Organisms	Inoculum CFU/ml	Growth
Salmonella Typhimurium ATCC 14028	50-100	Good growth, colourless colonies(NLF)
Escherichia coli ATCC 25922	50-100	Partial Inhibition, pink colonies with bile precipitate

Storage and Shelf Life ,

Store between 10-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques.

Reference

1. Klett A., 1900, Zeitsch Für Hyg. Und. Infekt., 33: 137.
2. Guth F., 1926, Zbl. Bakt. I. Orig., 77:487.
3. Leifson E., 1936, Am. J. Hyg., 24(2) : 423.
4. Kelly, Brenner and Farmer, 2003, Manual of Clinical Microbiology, 8th ed., Lennett and others (Eds.), ASM, Washington, D.C.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
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