Selenite Broth (Selenite F Broth) (Twin Pack)

M052

Intended Use:

Selenite Broth is recommended as enrichment media for the isolation of *Salmonellae* from faeces, urine or other pathological materials.

Composition**

Ingredients	Gms / Litre
Part A	-
Tryptone	5.000
Lactose	4.000
Sodium phosphate	10.000
Part B	-
Sodium hydrogen selenite	4.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 4.0 grams of Part B in 1000 ml distilled water. Add 19.0 grams of Part A. Mix well. Warm to dissolve the medium completely. Distribute in sterile test tubes. Sterilize in a boiling water bath or free flowing steam for 10 minutes. DO NOT AUTOCLAVE. Excessive heating is detrimental. Discard the prepared medium if large amount of selenite is reduced (indicated by red precipitate at the bottom of tube/bottle).

Principle And Interpretation

Klett (1) first demonstrated the selective inhibitory effects of selenite and Guth (2) used it to isolate *Salmonella Typhi* . Leifson fully investigated selenite and formulated the media (3). Enrichment media are routinely employed for detection of pathogens in faecal specimens as the 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 when organisms occur in the faeces in low numbers and for epidemiological studies to enhance the detection of low number of organisms from asymptomatic or convalescent patients (4).

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 a stable pH and also lessens the toxicity of selenite. Enriched broth is subcultured on differential plating media such as Bismuth Sulphite Agar (M027), Brilliant Green Agar (M016), XLD Agar (M031) etc. Do not incubate the broth longer than 24 hours as inhibitory effect of selenite decreases after 6 - 12 hours of incubation (5).

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 (6,7).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic 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. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

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 (5).

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

Appearance
Part A : White to light yellow homogeneous free flowing powder Part B : White to cream crystalline powder

Colour and Clarity of prepared medium
Cream to yellow coloured clear solution without any precipitate

Reaction
Reaction of medium [(1.9% w/v) Part A and (0.4% w/v) Part B] at 25°C. pH : 7.0±0.2

pH
6.80-7.20

Cultural Response
Cultural characteristics observed when subcultured on MacConkey Agar(M081) after an incubation at 35-37°C for 18-24 hours.

Cultural Response

Organism	Inoculum (CFU)	Recovery	Colour of colony
Escherichia coli ATCC 8739 (00012*)	50-100	none to poor (no increase in numbers)	pink with bile precipitate
Salmonella Typhimurium ATCC 14028 (00031*)	50-100	good-luxuriant	colourless
Escherichia coli NCTC 9002	50-100	none to poor (no increase in numbers)	pink with bile precipitate
Escherichia coli ATCC 25922 (00013*)	50-100	none to poor (no increase in numbers)	pink with bile precipitate
Salmonella Typhi ATCC 6539	50-100	good-luxuriant	colourless
Salmonella Choleraesuis ATCC 12011	50-100	good-luxuriant	colourless

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

Reference

1. Chattopadhyay W. and Pilford J. N., 1976, Med. Lab. Sci., 33:191

2. Guth F., 1926, Zbl. Bakt. I. Orig., 77:487.

3. Isenberg, H.D. Clinical Microbiology Procedures Handb0ook. 2nd Edition.
4. Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Kelly, Brenner and Farmer, 2003, Manual of Clinical Microbiology, 8th ed., „Lennett and others (Eds.), ASM, Washington, D.C.
6. Klett A., 1900, Zeitsch Für Hyg. Und. Infekt., 33: 137.
7. Leifson E., 1936, Am. J. Hyg., 24(2) : 423.

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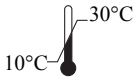
IVD — In vitro diagnostic medical device

CE Marking



Storage temperature

Do not use if package is damaged

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