Mannitol Selenite Broth(Selenite Mannitol Broth) (Twin Pack) M1534

Intended use:

For selective enrichment of *Salmonellae* from clinical materials.

Composition**

Ingredients	g / L
Part A	-
Peptone	5.000
Mannitol	4.000
Sodium phosphate	10.000
Part B	-
Sodium hydrogen selenite(Sodium biselenite)	4.000
Final pH (at 25°C)	7.1±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 o f Part A. Warm to dissolve the medium completely. Distribute in sterile 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 the tube).

Caution: Sodium hydrogen selenite (Sodium biselenite) is very toxic, corrosive agent and causes teratogenicity. So it should be handled with great care. If there is contact, wash immediately with lot of water.

Principle And Interpretation

Selenite-containing media for the enrichment of *Salmonella* was first described by Guth (1). This medium was further modified by Leifson (2) for the enrichment and isolation of *Salmonella* from clinical specimens. Mannitol Selenite Broth is a selective enrichment medium, more or less similar to Leifson (2) enrichment medium, described by Hobbs and Allison (3) for the isolation of *Salmonella* Typhi and *Salmonella* Paratyphi B from clinical specimens. Mannitol Selenite Broth can also be used for the selective enrichment of *Salmonella* from water and foodstuffs.

Peptone provides amino acids and other nitrogenous substances to Salmonellae. Mannitol serves as fermentable carbohydrate, a sugar alcohol which also helps in maintaining a uniform pH along with sodium phosphate. Sodium phosphate also lessens the toxicity of selenite.

Do not incubate longer than 24 hours as the inhibitory effect of selenite is reduced after 6-12 hours incubation (4). Subculture broth from the upper third of the broth column to greater or lesser inhibitory selective agars.

Type of specimen

Clinical samples - Faeces, ; Food samples; Water samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6).

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (7).

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (8).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic use. 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. 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. Excessive heating is detrimental for the medium
2. Discard the prepared medium if large amount of selenite is reduced (indicated by red precipitate at the bottom of the tube).

3.Do not incubate longer than 24 hours as the inhibitory effect of selenite is reduced after 6 - 12 hours incubation (4).

Performance and Evaluation

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

Quality Control

Appearance

Part A : Cream to yellow homogeneous free flowing powder Part B : White to cream homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent solution of complete medium

Reaction

Reaction of 1.9% w/v of Part A + 0.4% w/v of Part B at 25°C. pH : 7.1±0.2

pH

6.90-7.30

Cultural Response

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

Organism	Inoculum (CFU)	Recovery (increase in numbers)	Colour of Colony
Escherichia coli ATCC 25922 (00013*)	50-100	little-none	pink with bile precipitate
Salmonella Enteritidis ATCC 13076 (00030*)	50-100	luxuriant	colourless
Salmonella Paratyphi B ATCC 8759	50-100	luxuriant	colourless
Salmonella Typhi ATCC 6539	50-100	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 15-30°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. 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 (5,6).

Reference

1. Guth F., 1916, Zentralbl. Bakteriol. Parasitenk. Indektionskr. Hyg. Abt. 77:487
2. Leifson E., 1936, Am. J. Hyg., 24(2):423.
3. Hobbs B. C. and Allison V. D., 1945, Mon. Bull. Min. Hlth. Publ. Hlth. Lab. Serv., 4:12.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. 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.
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7. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.

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IVD ***In vitro* diagnostic medical device**

30°C
10°C **Storage temperature**

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CE Marking

Do not use if package is damaged

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