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

Mannitol Selenite Broth is used for selective enrichment of Salmonellae from clinical materials.

Composition**

Ingredients	Gms / Litre
Part A	-
Peptic digest of animal tissue	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 of Part A. 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 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.

Peptic digest of animal tissue 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 alongwith 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.

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

M1534: 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	50-100	little-none	pink with bile precipitate
Salmonella Enteritidis ATCC 13076	50-100	luxuriant	colourless
Salmonella Paratyphi B ATCC 8759	50-100	luxuriant	colourless
Salmonella Typhi ATCC 6539	50-100	luxuriant	colourless

Storage and Shelf Life

Storage below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

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

Revision : 02 / 2015