SBG Enrichment Broth (Twin Pack)

M1535

Intended Use:

Recommended for selective enrichment of *Salmonellae* from clinical specimens

Composition**

Ingredients	g / L
Part A	-
Peptone	5.000
Yeast extract	5.000
Mannitol	5.000
Sodium taurocholate	1.000
Dipotassium hydrogen phosphate	2.650
Potassium dihydrogen phosphate	1.020
Brilliant green	0.005
Part B	-
Sodium hydrogen selenite	4.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 4 grams of Part B in 1000 ml purified / distilled water. Add 19.67 grams of Part A. Mix well. Heat to boiling for 5 to 10 minutes. **DO NOT AUTOCLAVE OR OVERHEAT.** Dispense in sterile tubes. Add 0.5 g/l sodium sulfapyridine if desired. 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 with skin wash immediately with lot of water.

Principle And Interpretation

Salmonella are gram-negative, facultatively anaerobic, non-sporulating, motile rods in the family *Enterobacteriaceae*. They are widely distributed in animals affecting mainly the stomach and the intestines. These organisms are difficult to differentiate biochemically from *Escherichia coli*. Leifsons Selenite Medium (1) and Kauffmanns Modified Tetrathionate Medium have been widely used as enrichment medium for the isolation of *Salmonella*. Selenite Medium used for enrichment of *Salmonella* inhibits *E. coli* but allows growth of *Proteus* and *Enterobacter*. To overcome this difficulty, Strokes and Osborne developed a more selective medium by adding brilliant green and sodium taurocholate to the Selenite Medium and showed that it was superior to the Selenite Medium for isolating *Salmonella* in patients with gastroenteritis and similar diseases.

SBG (Selenite Brilliant Green) Enrichment Broth is prepared as per the formulation described by Stokes and Osborne (2) for selective enrichment of *Salmonella* from clinical specimens and egg products. Brilliant green and sodium selenite are neutralized by the egg constituents rendering the medium non-selective therefore sulfapyridine is added to the medium for isolation of *Salmonella* from eggs (3).

Peptone and yeast extract provide nitrogenous compounds, carbon, sulphur, vitamin B complex and trace elements necessary for the growth of organisms. Mannitol is the fermentable carbohydrate. Mannitol is utilized by *Salmonella* as an energy source, but it cannot be utilized by *Proteus*. Phosphates buffer the medium well. Brilliant green, sodium hydrogen selenite, sodium taurocholate inhibit the growth of gram-positive organisms and enteric organisms except *Salmonella* species. Whole egg and egg yolk reduces the selective properties of Selenite-Brilliant Green Enrichment. Addition of sulfapyridine restores the selective properties (3). This medium cannot be used for the isolation of *Salmonella* Typhi, *Salmonella* Paratyphi A, and *Salmonella* Pullorum.

Type of specimen

Clinical: faeces, rectal swabs

Specimen Collection and Handling

1 gram or 1 ml of test material is inoculated in 10 ml of the medium and incubated at 35-37°C for 18-24 hours. Following incubation, a loopful of the enriched culture is streaked on SS Agar (M108), MacConkey Agar (M081) or other plates for the isolation of *Salmonella*.

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. DO NOT AUTOCLAVE OR OVERHEAT.
2. This medium is not recommended for the isolation of *Salmonella* Typhi, *Salmonella* Paratyphi A, and *Salmonella* Pullorum.

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

Colour and Clarity of prepared medium

Light green coloured clear to slightly opalescent solution

Reaction

Reaction of 1.97% w/v of Part A + 0.4% w/v of Part B at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

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

Organism	Inoculum (CFU)	Growth (on M081)	Recovery (on M081)	Colour of colony (on M081)
Salmonella Choleraesuis ATCC 12011	50-100	luxuriant	>=50%	colourless
Salmonella Typhi ATCC 6539	50-100	luxuriant	>=50%	colourless
Salmonella Typhimurium ATCC 14028 (00031*)	50-100	luxuriant	>=50%	colourless
#*Klebsiella aerogenes* ATCC 13048 (00175*)	50-100	none-poor	<=10%	pink to colourless
Escherichia coli ATCC 25922 (00013*)	50-100	none-poor	<=10%	pink with bile precipitation

Key:*Corresponding WDCM numbers #Formerly known as *Enterobacter aerogenes*

Storage and Shelf Life

Store dehydrated between 10-30°C 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. 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 (4,5).

Reference

1. Osborne and Stokes, 1955, Appl. Microbiol., 3:295.
2. Stokes and Osborne, 1955, Appl. Microbiol., 3:217.
3. Leifson, 1955, Appl. Microbiol. 3:295
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. 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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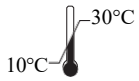
HiMedia Laboratories Pvt. Limited,
Plot No.C-40, Road No.21Y,
MIDC, Wagle Industrial Area,
Thane (W) -400604, MS, India

IVD *In vitro* diagnostic medical device



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE Marking

Do not use if package is damaged

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