PRODUCT INFORMATION

Product Type: Bottles / Tubes

Cat No. BP214 - Selenite Broth Bottles
TT130 - Selenite Broth Tubes

Application - Selenite Broth is a selective enrichment medium intended for the isolation of *Salmonella spp*.

Intended Use: In vitro diagnostic. Enrichment liquid medium for the isolation of Salmonella spp. in clinical specimens.

Principles and uses:
Selenite Broth is a selective enrichment medium intended for the isolation of *Salmonella spp*. from clinical specimens, such as faeces and urine. Tryptone provides carbon, nitrogen and trace elements for bacterial growth. Sodium acid selenite (synonyms: sodium hydrogen selenite, sodium biselenite), at neutral pH, is inhibitory for coliforms and certain other microbial species, such as faecal *streptococci* and other Gram-positive bacteria, present in faecal specimens, but not for the majority of *Salmonella spp*. It is believed that, in part, the toxicity of selenite for microorganisms may be attributable to the incorporation of selenium analogues of sulphur-containing amino acids into proteins[4]. The phosphate buffer lessens the toxicity of selenite and tends to minimize the alkalinizing effects induced by the reduction of sodium selenite; these alkalinizing effects would notably diminish the selective properties of the medium. The acids produced by the microorganisms from lactose also contribute to neutralise alkaline reactions of the medium. Maximal recovery of *Salmonella* from faecal specimens is obtained by using an enrichment broth followed by subculture on selective enteric plating media.[5] According to the data of Kelly et al.[6] about 40% of *S.enterica* isolated with an enrichment into Selenite Broth and a subculture onto XLD plates did not grow with a direct inoculation on the primary XLD plates. Selenite Broth has been demonstrated to be superior to other selective enrichment broths for the isolation of Salmonella Typhi from stools.[7]

Procedures

For feces and other solid materials

- Suspend 1-2 g of the specimen in the broth (approximately 10-15% by volume) and emulsify with an inoculating needle, if necessary. Swab specimens may be inserted directly into the broth
- Incubate tubes with loosened caps at 35 ± 2°C for up to 24 hours.
- Place one to two drops of the incubated broth onto selective plate media, such as MacConkey or XLD Agar and streak for isolated colonies.
- Subcultures should be made after 12-18 hours of incubation, if possible. Coliforms will tend to overgrow the pathogens if incubated longer than 24 hours.

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours and sub-cultured on MacConkey or XLD agar.

Limitations
The recovery of many *Salmonellae* is greatly jeopardized if stool specimens remain unpreserved for more than three hours before processing. If there is to be a delay in processing, the specimen should be inoculated onto an appropriate transport medium and refrigerated until inoculation.
A brick red precipitate may appear if Selenite Cystine Broth is overheated during preparation or exposed to excessive moisture during storage.

Regulation: ISO 6579

References

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3. Leifson E. New selenite selective enrichment medium for isolation of typhoid and paratyphoid (salmonella) bacilli. A. J Hyg 1936; 24:423
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5. Strockbine NA, Bopp CA, Fields PI, Kaper JB, Nataro JP. Escherichia, Shigella and Salmonella. In Jorgensen JH, Carrol KC, Funke G et al. editors. Manual of clinical microbiology,11th ed. Washington,DC: American Society for Microbiology; 2015. p.685.
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8. CLSI (formerly NCCLS) Quality Control of Commercially Prepared Culture Media. Approved Standard, 3rd edition. M22 A3 vol. 24 n° 19, 2004
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Composition:
Tryptone 5 g/L
Lactose 4 g/L
Sodium phosphate bibasic 10 g/L
Sodium acid selenite 4 g/L

Storage: 2-8 °C
Appearance: Very light amber, clear to very slightly opalescent, may have a slight precipitate.
pH Range: (at 25°C) 7.0 ±0.2
Pkg: TT130 - 20 tubes in a box, containing 4.0 ml of prepared medium
BP214 - 125 ml in septum capped bottle, 400 ml in a screw capped bottle
Exp. Date: Printed on label and on the item.
Required materials not supplied: Laboratory equipment as required.

Hy Laboratories Ltd.
6 Menachem Plaut St., Park Tamar, Rehovot 7670606, Israel
Tel. +972.8.9366475 **Email.** hylabs@hylabs.co.il

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Version Number: 01

Warning and Precautions:
Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Bottles / Tubes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Bottles / Tubes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

Waste Disposal
After interpretation all items should be destroyed by standard incineration methods.

Performance Testing Results:

Test	ATCC NO		Incubation Temp. (℃)	Incubation Cond.	Reaction 1
Salmonella typhimurium	14028	100 cfu	33-37 ℃	Aerobic, 18-24 hours	Growth
Escherichia coli	25922	100000 cfu	33-37 ℃	Aerobic, 18-24 hours	Partially inhibited

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