Product :
SELENITE CYSTINE BROTH BASE

CE IVD

Specification

Liquid medium used for the enrichment of *Salmonella* and *Shigella* from clinical specimens and other products according to ISO standards.

Formula * in g/L

Peptone..... 5,00
Lactose.....4,00
Potassium phosphate.....10,00
L-Cystine..... 0,01

Final pH 7,0 ±0,2 at 25 ºC

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Dissolve 19,01 g of powder. in 1 L of distilled water and add 4 g of sodium biselenite (Art. No. SO0160). Homogenize and dissolve completely. Distribute in suitable containers. This is a thermolabile medium therefore do not overheat. Use immediately. Do not autoclave.

Description

Selenite Cystine Broth has been developed according to Leifson's formulation with the addition of L-Cystine to comply with FDA and APHA specifications; since it was shown that the medium performed better in a reduced CO_2 atmosphere.
It is essentially an enrichment medium for *Salmonella* found in food or pathological materials, such as faeces or urine. It is used as an initial step prior to isolation on selective media such as SS Agar or Hektoen Agar.

Technique

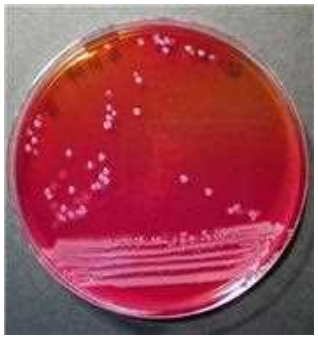
For normal samples incubation at 37ºC for a period not exceeding 18 hours is recommended, since within this period an enhanced growth of pathogens is achieved, but after 24 hours this effect seems to diminish and the growth of accompanying organisms may mask the growth of Salmonella.
Appearance of a red precipitate before inoculation indicates overheating of the medium, in which case the selective properties are significantly reduced.
Presence of abundant sample residues may also inactivate the selective property of the medium, e.g. faeces and or egg powder. In these cases, it is better to make a 1:10 dilution to allow the bigger particles to separate out by settling to the bottom of the dilution tube, and then inoculate Selenite Cystine Broth with an aliquot of the diluted sample supernatant. Maintaining a proportion of 1:10 between the sample and the medium.
When isolation of Salmonella from faeces is required, the results are better if the enrichment medium is incubated at 43ºC. However this procedure does not work for the isolation of Salmonella typhi. For this microorganism enrichment in Mannitol-Selenite Broth at 37ºC is recommended.
When the starting material is urine, the best procedure is to use Selenite Cystine Broth in double concentration, and to inoculate it with an equal volume of urine.
Sub-culturing must always be carried out after 6 hours of incubation but before 24 hours. Most authors recommend the simultaneous use of another enrichment broth, such as Muller-Kauffmann Tetrathionate Broth Base.

Quality control

Incubation temperature: 35ºC ±2,0 **Incubation time:** 24 h

Inoculum: Inoculation with mixed cultures. Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity) / 10^4-10^6 CFU (Selectivity) according to ISO 11133:2014/Amd 1:2018

Microorganism	Growth	Remarks
Enterococcus faecalis ATCC® 29212	Total inhibition	Recovery in TSA
Escherichia coli ATCC® 25922	Total inhibition	Recovery in TSA
S. typhimurium ATCC® 14028 + (1) + (2)	Good	Recovery in XLD (Mixed cultures)
Salmonella enteritidis ATCC® 13076 + (1) + (2)	Good	Recovery in XLD (Mixed cultures)
Escherichia coli ATCC® 8739 (1)	Inhibited	Recovery in XLD (Mixed cultures)
Pseudomonas aeruginosa ATCC® 27853 (2)	Inhibited to poor	Recovery in XLD (Mixed cultures)



Salmonella typhimurium ATCC 14028
Pseudomonas aeruginosa ATCC

Salmonella typhimurium ATCC 14028
Escherichia coli ATCC 25922
Pseudomonas aeruginosa ATCC 27853

Total inhibition
Escherichia coli ATCC 25922

References

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Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).