

## SELENITE CYSTINE BROTH

Powdered and ready to use enrichment liquid medium  
for the detection of *Salmonella* spp. in foodstuffs

### TYPICAL FORMULA (g/l)

Tryptone	5.0
Lactose	4.0
Sodium Phosphate Bibasic	10.0
Sodium Acid Selenite	4.0
L-Cystine	0.01

## SELENITE CYSTINE BROTH BASE

Enrichment liquid medium base, without sodium selenite  
for the detection of *Salmonella* spp. in foodstuffs

### TYPICAL FORMULA (g/l)

Tryptone	5.0
Lactose	4.0
Sodium Phosphate Bibasic	10.0
L-Cystine	0.01

### DIRECTIONS FOR POWDERED MEDIA

*Selenite Cystine Broth*: suspend 23g in 1000ml of cold distilled water, warm until complete dissolution and distribute into sterile tubes or flasks. Do not overheat or autoclave.

After a long storage period of the dehydrated medium, the colour of the prepared broth might change to reddish/red. The microbiological performance however is not affected.

Final pH 7.0 ± 0.1

*Selenite Cystine Broth Base*: dissolve 4g of Sodium Biselenite (REF 4123651) in 1 litre of cold distilled water and then add 19g of Selenite Cystine Broth Base. Warm until complete dissolution and distribute into sterile tubes or flasks.

Final pH 7.0 ± 0.1

### DESCRIPTION

Selenite Cystine Broth is an enrichment liquid medium for the isolation of *Salmonella* spp. from foods and other specimens.

The medium complies with the requirements of USP for the detection of *Salmonella* in pharmaceutical products (Microbial Limit Tests). Selenite Cystine Broth is recommended by ISO 6579:1993, in the general guidance on methods for the detection of *Salmonella* in foodstuffs and by FDA BAM for the detection of *Salmonella* in food other than raw flesh foods, highly contaminated foods and animal feeds; for these foods FDA BAM recommends Tetrathionate Broth.

### TECHNIQUE

For the preparation of initial suspension add 25g sample portion to 225ml of Buffered Peptone Water or Lactose Broth. If the required test portion is other than 25g, use a suitable quantity of pre-enrichment broth to yield approximately 1/10 dilution (m/v).

Incubate the initial suspension at 37°C for not less than 16 hours, but not more than 20 hours.

Transfer 1ml or 10ml to a tube or to a flask containing 10 or 100ml of Selenite Cystine. For the second selective enrichment broth refer to the literature or to specific norms.

Incubate the inoculated Selenite Cystine Broth at 37°C for 24hrs and, if required by specific standards, for a further 24hrs. Subculture from the two enrichment broths to any combination of greater or lesser inhibitory plating out selective agar for *Salmonella*. USP recommends the use of Brilliant Green Agar, XLD Agar and Bismuth Sulphite Agar. FDA BAM recommends Hecktoen Enteric Agar, XLD Agar and Bismuth Sulphite Agar.

Any typical or suspected colony should be subjected to a biochemical and serological confirmation using a pure subculture in a nutrient agar plate.

Biochemical confirmation tests include: TSI Agar, Urea Agar, L-Lysine Decarboxylase Medium, detection of  $\beta$ -galactosidase, VP reaction, indole detection.

Serological confirmation includes the detection of the presence of *Salmonella* O-, Vi and H antigens by slide agglutination test.

Biochemical confirmation could be substituted with the rapid test MUCAP (REF 191500). All the colonies MUCAP positive must be serologically confirmed.

**USER QUALITY ASSURANCE** (37°C-24 hrs, subculture on TSA)

Productivity Control

*S.typhimurium* ATCC 14028: growth

Selectivity control

*E.coli* ATCC 25922: partially or completely inhibited**STORAGE**

Selenite Cystine Broth, dehydrated medium: 2-8°C

Selenite Cystine Broth Base, dehydrated medium: 10-30°C

User prepared tubes: 7 days at 2-8°C

**REFERENCES**

- FDA (1995) Bacteriological Analytical Manual, 8<sup>th</sup> ed. Revision A, 1998. Published by AOAC International.
- ISO 6579: 1993 Microbiology - General guidance on methods for the detection of *Salmonella*.
- Leifson, E. (1936). Am. J. Hyg., **24**, 423432
- U.S. Pharmacopoeia 24, NF 19 (2000)

**PACKAGING**

<b>4020261</b>	<b>Selenite Cystine Broth</b>	<b>100g (4.31tr)</b>
<b>4020262</b>	<b>Selenite Cystine Broth</b>	<b>500g (21.7 l)</b>
<b>4020264</b>	<b>Selenite Cystine Broth</b>	<b>5kg (217 l)</b>
<b>552026</b>	<b>Selenite Cystine Broth</b>	<b>20 x 10 ml ready to use tubes</b>
<b>402026B1</b>	<b>Selenite Cystine Broth Base</b>	<b>100g (5.3 l)</b>
<b>402026B2</b>	<b>Selenite Cystine Broth Base</b>	<b>500g (26.3 l)</b>
<b>402026B4</b>	<b>Selenite Cystine Broth Base</b>	<b>5kg (263 l)</b>