Sodium Selenite Broth

Cat. 1222

For the selective enrichment of Salmonella spp. in foods, feces, urine (from clinical samples) and other materials of sanitary importance.

Practical information

Aplications	Categories
Selective enrichment	Salmonella

Industry: Clinical / Food

CE
IVD

Principles and uses

Sodium Selenite Broth is a selective medium for the enrichment of Salmonella that may be present in small numbers and competing with intestinal flora. The broth medium can be made more selective for the isolation of Salmonella in meat products when it is incubated for 16 to 18 hours at 43°C instead of 37°C.

The enrichment medium is frequently used for the detection of pathogens in fecal specimens as these pathogens usually represent a small proportion of the intestinal flora.

Peptone mixture is a source of nitrogen, vitamins and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. Sodium selenite inhibits Gram-positive bacteria and most enteric Gram-negative bacteria, except Salmonella. Sodium phosphate is a buffer.

Formula in g/L

Lactose	4	Peptone mixture	5
Sodium selenite	4	Sodium phosphate	10

Preparation

Suspend 23 grams of the medium in one liter of distilled water. Mix well and heat gently until dissolved. Dispense and sterilize by exposing the medium to flowing steam for 5 minutes. Excessive heating is detrimental. DO NOT STERILIZE IN AUTOCLAVE.

Instructions for use

» For clinical diagnosis, the type of samples are urine, feces and Infected tissue.

Fecal specimen: Add 1-2 ml of the fecal suspension to 10-15 ml of Sodium Selenite Broth and mix well until a homogeneous solution is obtained.
Infected tissue: Macerate 1-2 grams of the sample in 10-15 ml of Sodium Selenite Broth using a sterile pipette.
Urine: Add 5-7,5 ml of urine to an equal volume of Sodium Selenite Broth mix well to get a homogeneous solution.

- Incubate at 37 °C for 18-24 hours. After incubation the number of pathogen colonies must be higher.
- Subcultivate in a selective and differential medium for isolation and identification of pathogens. Tee media could be: MacConkey Agar (Cat.1052), SS Agar (Cat.1064), XLD Agar (Cat.1080), Salmonella Chromogenic Agar (Cat.1122).
- Incubate at 35±2 °C for 18-24 hours.
- Reading and interpretation of results.

» For other uses not covered by the CE marking:

Detection of Salmonella in foods:
- Inoculate medium and incubate at 35±2 °C for 18-24 hours.
- After incubation, subculture to MacConkey Agar (Cat. 1052), SS Agar (Cat. 1064), XLD Agar (Cat. 1080) or Chromogenic Salmonella Agar (Cat.1122).
- Incubate again for confirmation.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
A slight precipitate could appear	Fine powder	Whitish	Clear to dark amber. Reddish if stored for long.	7,0±0,2

Microbiological test

Incubation conditions: (37±1 ºC / 24±3 h).
Inoculation conditions: Productivity qualitative (<100 CFU) / Selectivity (10^4-10^6 CFU).

Microrganisms	Specification
Salmonella typhimurium ATCC 14028 +Escherichia coli ATCC 8739 +Pseudomonas aeruginosa ATCC 27853	>10 characteristic colonies on XLD Agafr or other medium of choice
Salmonella enteriditis ATCC 13076 +Escherichia coli ATCC 8739 +Pseudomonas aeruginosa ATCC 27853	>10 characteristic colonies on XLD Agar or other medium of choice
Enterococcus faecalis ATCC 19433	<10 colonies on TSA
Escherichia coli ATCC 8739	Partial inhibition, <=100 colonies on TSA

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Bibliography

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