Salmonella Chromogenic Supplement

Cat. 6043

Selective supplement for the isolation of Salmonella

Practical information

Aplications	Categories
Selective isolation	Salmonella

Industry: Clinical / Food

CE IVD

Principles and uses

Salmonella Chromogenic Supplement contains a mixture of antibiotics that inhibit the accompanying flora to avoid false positives. This supplement is added to the Salmonella Chromogenic Agar (Cat. 1122).

Salmonella Chromogenic Agar is a selective chromogenic medium, used for the detection and presumptive identification of Salmonella species from clinical samples, foods and waters. The media traditionally used to differentiate species of Salmonella from the rest of the Enterobacteriaceae family, based on their capacity to produce hydrogen sulfide and their inability to ferment lactose, are not really adequate as there are more than 2.000 species of Salmonella which do not have these characteristics.

To identify Salmonella species, this medium contains a chromogenic agent based on the combination of two chromogenic substrates that ease quick identification. Magenta colonies are a result of the hydrolysis of one of the chromogenic substrate by the Salmonella species due to the inability to use another chromogenic substrate. Microorganisms producing the enzyme that cleaves the second chromogenic substrate will produce blue-green colonies. Thus, non-Salmonella organisms appear blue-green or are not stained by any of the chromogenes of the medium. Supplement is added when more selectivity is desired, as it inhibits the accompanying flora, specially Pseudomonas, that could appear in the same color as Salmonella colonies.

The medium can be used as a secondary medium for the detection of Salmonella in food and water according to ISO 6579 and ISO 19250 respectively.

Formula per vial

Antibiotic mix (mg)	8,5

Preparation

Aseptically reconstitute 1 vial with 5 ml of sterile distilled water. Mix gently until complete dissolution and aseptically add to 500 ml of Salmonella Chromogenic Agar (Cat. 1122), previously cooled to 50 ºC. Mix well and distribute into sterile containers.

Instructions for use

» For clinical diagnosis, the type of sample is fecal and from rectal tract.

- Inoculate the sample on the surface of the Salmonella Chromogenic Agar plates, streaking to obtain isolated colonies.
- Incubate at a temperature of 35±2 ºC for 18-24 hours.
- Examine the color of the colonies.

» For other uses not covered by the CE marking:

Detection of Salmonella spp in foods according to ISO 6579:
- Preenrichment in non-selective liquid medium:
Inoculate the Buffered Peptone Water (Cat. 1402) with the sample or dilutions, and incubate at 34-38 ºC for 18 h.
- Enrichment in/on selective media:
Inoculate, with the culture obtained in the pre-enrichment stage, the Rappaport Soy Broth (Vassiliadis)(Cat. 1174) or the Modified Semisolid Rappaport Vassiliadis medium (MSRV) (Cat. 1376), and the Tetrathionate Broth (Muller-Kauffmann) (Cat. 1173).
The Rappaport Soy Broth and the Modified Semisolid Rappaport medium are incubated at 41,5 ºC for 24 h, and the Tetrathionate Broth at 37 ºC for 24 h.
- Plating out on selective solid media:
From the selective enriched cultures, inoculate two selective isolation agar; XLD agar (Cat. 1274) and any other selective medium complementary to

XLD agar, in this case, Salmonella Chromogenic Agar (Cat. 1122).
Incubate the XLD plates inverted at 35±2 ºC for 18-24 h.
Incubate the Salmonella Chromogenic Agar (Cat. 1122) at 35±2 ºC for 18-24 hours.
- Confirmation:
Subculture colonies of presumptive Salmonella and confirm their identity by biochemicals and serological tests.

Detection of Salmonella spp. in water samples according to ISO 19250:
- Preenrichment in non-selective medium:
Inoculate the Buffered Peptone Water (Cat. 1402) with the sample or dilutions, and incubate at 36±2 ºC for 18±2 h.
- Enrichment in selective media:
Inoculate, with the culture obtained in the pre-enrichment stage, the Rappaport Soy Broth (Vassiliadis)(Cat. 1174) and the Tetrathionate Broth (Muller-Kauffmann) (Cat. 1173).
The Rappaport Soy Broth is incubated at 41,5±1 ºC and the Tetrathionate Broth at 37±1 ºC, both of them for 24±3 hours.
- Plating out on selective solid media:
From the selective enriched cultures, inoculate two selective isolation agar; XLD agar (Cat. 1274) and any other selective medium complementary to XLD agar n this case, (Salmonella Chromogenic Agar (Cat. 1122).
Incubate the XLD plates inverted at 35±2 ºC for 18-24 h.
Incubate the Salmonella Chromogenic Agar (Cat. 1122) at 35±2 ºC for 18-24 hours.
- Confirmation:
Subculture colonies of presumptive Salmonella and confirm their identity by biochemicals and serological tests.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
Cloudy	Lyophilized tablet	N/A	Opaque white	N/A

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h).

Microrganisms	Specification	Characteristic reaction
Salmonella enteritidis ATCC 13076	Good growth	Magenta colony
Proteus vulgaris ATCC 13315	Inhibited growth	Colorless colony
Salmonella typhimurium ATCC 14028	Good growth	Magenta colony
Salmonella typhi ATCC 19430	Good growth	Magenta colony
Escherichia coli ATCC 25922	Partially inhibited growth	Blue-green colony
Salmonella dyarizoneae ATCC 29934	Good growth	Magenta colony

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Bibliography

Ryan N. (1985) Personal communication.
Rogol M., Sechter I., Grinberg L., Gerichter Ch. B. (1992) J. Med. Microbiol. 12. 229-231.