

Salmonella Chromogenic Medium

Catalog :HB7007-11

Salmonella Chromogenic Medium is a selective and differential medium for the isolation and presumptive identification of Salmonella species from other coliform and non-coliform bacteria in clinical stool samples and a variety of food samples. The colonies of salmonella are purple, E. coli and coliform bacteria are blue, and the other bacteria are yellow or colorless.

Approximate Formula:

Ingredients	gm/liter
Special Nutrients	49.5
Mixed Chromogenic reagent	0.5
Agar	15.0
Final pH7.6±0.1 at 25°C	

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

Directions:

Suspend 13.0g of the medium in 200 ml of distilled water. Mix thoroughly. Heat with frequent agitation and boil for 1minute to completely dissolve the powder. DO NOT AUTOCLAVE. Cool to 45-50°C ,pour into sterile petri dishes.

Note: Prepared medium must be kept dry, it can be inverted in incubator at 36 ± 1°C for 1-2 hours.

Principle and Interpretation:

Salmonella is ubiquitous in animal populations and is generally isolated from the intestinal tract of animals and humans. It is one of the most prevalent organisms associated with foodborne illnesses, which is often linked to animal origin. Illnesses caused by Salmonella have been associated with poultry, beef, chocolate, dairy and vegetable products.

Salmonella Chromogenic Medium was originally developed by Qingdao Hopebio, under a licensing agreement, has optimized this formulation utilizing proprietary intellectual property used in the manufacturing Salmonella prepared plated medium and dehydrated medium

Salmonella Chromogenic Medium (prepared plates and dehydrated)have been validated by the AOAC Research Institute under the Performance Tested Methods Program for testing a variety of food types, including raw ground beef, raw chicken, raw fish, lettuce and shell eggs. The prepared plates made from the dehydrated culture medium are compared to the GB (China) the SDA/F SIS and FDA/BAM reference methods. The prepared plates are also compared to the ISO reference media.

Special Nutrients supply the nutrients. Gram-positive organisms are generally inhibited as a result of the selective medium base. The addition of an antifungal agent prevents the growth of Candida species and other antimicrobial agents are used to inhibit the growth of gram-negative, non-glucose fermenting bacteria and Proteus species, which could potentially overgrow Salmonella colonies. A chromogenic mixture is included in the medium. Due to metabolic differences in the presence of selected chromogens, colonies of Salmonella species appear mauve(rose to purple) in color, whereas undesired bacteria are either inhibited, or produce blue-green or colorless colonies

Procedures:

1. Prepared sample solution according to national standards, SN standard, FDA standards or other methods.
2. Transfer 1mL sample solution into 9mL RVS Broth or other enrichment broth, enrichment culture for 24±2 hours at 36±1°C;
3. Take one loop of enrichment broth with a 3mm inoculation loop, streak to inoculate on Salmonella chromogenic medium, make two plates
4. Enrichment cultivation for 24±2 hours at 36 ± 1°C, The colonies of salmonella are purple, E.Coli and coliform bacteria are blue; the other bacteria are yellow or colourless.
5. For undermined colonies, streak them on nutrient agar plates, culture at 36 ± 1°C for 12-16h, select single colony to do a full set of Salmonella biochemical tests.

Appearance:

Dehydrated medium is a free-flowing yellowish powder. The prepared medium is a kind of colourless transparent gel.

Precautions:

This medium is for laboratory use only. Dried medium which is past shelf life, caking or colour variation cannot be used.

Storage conditions and Shelf life:

Salmonella Chromogenic Medium must be stored tightly capped in the original container at 2-25°C.

The recommended optimal storage temperature for long terms is 2-8°C.

The dehydrated medium has a shelf life of 2 years from date of manufacturing.

Prepared medium may be stored, out of direct light at 2-8°C.

Quality control:

Cultural characteristics observed after an incubation at $36 \pm 1^\circ\text{C}$ for 22-24 hours.

Microorganism	Strains Number	Inoculum (CFU)	Growth	Remarks
<i>Enterococcus faecalis</i>	ATCC 29212	$> 10^3$	Inhibited	/
<i>Proteus mirabilis</i>	ATCC 12453	$> 10^3$	Luxuriant	Colorless colonies
<i>Salmonella typhimurium</i>	ATCC 14028	20-200	Luxuriant	Purplish-red colonies
<i>Escherichia coli</i>	ATCC 25922	$> 10^3$	Partial inhibited	Blue-green colonies
<i>Pseudomonas aeruginosa</i>	ATCC 27853	$> 10^3$	Inhibited	/
<i>Salmonella enteritidis</i>	CMCC 50760	20-200	Luxuriant	Purplish-red colonies

References:

1. Rose. 2001. Isolation and identification of Salmonella from meat, poultry and egg products. In Microbiology laboratory guidebook, 3rd ed., Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, D.C.

2. U.S. Food and Drug Administration. 2001. Bacteriological analytical manual, online. AOAC International, Gaithersburg, Md.

3. International Organization for Standards (ISO). Microbiology of food and animal feeding stuffs. Horizontal method for the detection of Salmonella spp., 4th Edition, ISO 6579:2002.