HiCrome Salmonella Agar

M1296

HiCrome Salmonella Agar is used for the isolation and differentiation of *Salmonella* species from coliforms by chromogenic method.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	6.000
Yeast extract	2.500
Bile salts mixture	1.000
Chromogenic mixture	5.400
Agar	13.000
Final pH (at 25°C)	7.7±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 27.9 grams in 1000 ml distilled water. Gently heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Salmonella species have been isolated from humans and almost all animals throughout the world. They cause many types of infections from mild, self-limiting gastroenteritis to life threatening typhoid fever. *Salmonella* Typhi and *Salmonella* Paratyphi A & B cause gastroenteritis, bacteremia and enteric fever, *Salmonella* Choleraesuis causes gastroenteritis and enteric fever, especially in children. *Salmonella* Typhimurium is the most frequently isolated serotype of *Salmonella* . *Salmonella* is a cause of food poisoning (1).

HiCrome Salmonella Agar is a modification of the original formulation of Rambach (2) and is used for the differentiation of *Salmonella* species from other enteric bacteria. Rambach formulation differentiates *Salmonella* based on propylene glycol utilization and presence of a chromogenic indicator. However, HiCrome Salmonella Agar medium uses only a chromogenic mixture for identification and differentiation of *Salmonella* species.

Peptic digest of animal tissue and yeast extract provides nitrogenous, carbonaceous compounds and other essential growth nutrients. *Escherichia coli* and *Salmonella* are easily distinguishable due to their colony characteristics. *Salmonella* forms light purple coloured colonies with a purple halo.

E.coli and other ß-glucuronidase positive organisms exhibits a characteristic blue colour, due to presence of the enzyme ß-glucuronidase. Other organisms form colourless colonies. The characteristic light purple and blue colour is due to the chromogenic mixture (3). Bile salts mixture inhibits gram-positive organisms.

Conventional method employes the H2S production property for *Salmonella* detection which is also exhibited by other non *Salmonella* species such as *Citrobacter* , *Proteus*, etc. Hence further biochemical confirmation is required for further identification. *Salmonella* species isolated from food or clinical samples exhibit light purple colour with halo due to the specific enzyme substrate reaction.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.3% Agar gel.

Colour and Clarity of prepared medium

Light amber coloured, slightly opalescent gel forms in Petri plates

Reaction

Reaction of 2.79% w/v aqueous solution at 25°C. pH : 7.7±0.2

pH
7.50-7.90

Cultural Response
M1296: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Bacillus subtilis ATCC 6633	>=10^3	inhibited	0%	
Escherichia coli ATCC 25922	50-100	luxuriant	>=50%	blue
Proteus vulgaris ATCC 13315	50-100	good	40-50%	colourless
Salmonella Typhimurium ATCC 14028	50-100	luxuriant	>=50%	light purple w/ halo
Salmonella Enteritidis ATCC 13076	50-100	luxuriant	>=50%	light purple w/ halo
Salmonella Typhi ATCC 6539	50-100	good-luxuriant	>=50%	light purple w/ halo
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%	

Storage and Shelf Life
Store dehydrated powder and prepared medium at 2-8°C. Use before expiry period on the label.

Reference
1.Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2.Rambach A., 1990, Appl. Environ. Microbiol., 56:301.
3.Greenwald R., Henderson R. W. and Yappan S., 1991, J. Clin. Microbiol., 29:2354.

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