



Technical Data

HiCrome™ Improved Salmonella Agar

M1466

Intended Use:

Recommended as an improved selective and differential medium for *Salmonella* species from clinical and non clinical samples.

Composition**

Ingredients	Gms / Litre
Peptone, special	8.000
Yeast extract	2.000
Sodium deoxycholate	1.000
Chromogenic mixture	3.250
Agar	12.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 26.25 grams in 1000 ml purified/ distilled water. Gently heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°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* (1).

HiCrome™ Improved 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, Modified uses only a chromogenic mixture which contains chromogenic substrate and indicator dye for identification and differentiation of *Salmonella* species.

Peptone special and yeast extract provides nitrogenous, carbonaceous compounds, long chain amino acids, vitamins and other essential growth nutrients. *Escherichia coli* and *Salmonella* are easily distinguishable due to their colony characteristics. All *Salmonella* species isolated from food or clinical sample exhibit pink to red colonies including *Salmonella* Typhi. *E.coli* exhibits a characteristic blue to purple colour, due to presence of the enzyme specific for chromogenic substrate. Sodium deoxycholate inhibits gram-positive organisms.

Type of specimen

Clinical samples: faeces, urine; Food samples; Water samples

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4).

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (5).

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (6). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. The medium is selective for *Salmonella* may not support the growth of other microorganisms.
2. Most of the *Salmonella* strains show pink-red colonies except few which may show colorless colonies.
3. Due to nutritional variations, some strains may show poor growth.
4. Final confirmation of suspected colonies must be carried out by serological and biochemical tests.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Light yellow to pink homogeneous free flowing powder

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

Reddish pink coloured, slightly opalescent gel forms in Petri plates

Reaction

Reaction of 2.62% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
<i>Bacillus subtilis subsp. spizizenii</i> ATCC 6633 (00003*)	≥10 ⁴	inhibited	0%	
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	≥50%	green to blue
<i>Salmonella</i> Typhimurium ATCC 14028 (00031*)	50-100	luxuriant	≥50%	pink to red
<i>Salmonella</i> Enteritidis ATCC 13076 (00030*)	50-100	luxuriant	≥50%	pink to red
<i>Proteus vulgaris</i> ATCC 13315	50-100	good	40-50%	light brown
<i>Salmonella</i> Typhi ATCC 6539	50-100	good-luxuriant	≥50%	light pink
<i>Staphylococcus aureus subsp. aureus</i> ATCC 25923 (00034*)	≥10 ⁴	inhibited	0%	

Key: (*) Corresponding WDCM numbers

