# HiCrome Improved Salmonella Agar

**M1466**

HiCrome Improved Salmonella Agar is used as an improved selective and differential medium for *Salmonella* species.

## 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 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 and other essential growth nutrients. *Escherichia coli* and *Salmonella* are easily distinguishable due to their colony characteristics. All *Salmonella* species isoalted 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.

## Quality Control

**Appearance**
Cream to yellow 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**
M1466: 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 to purple |
| *Proteus vulgaris ATCC 13315* | 50-100 | good | 40-50% | light brown |
| *Salmonella Typhimurium ATCC 14028* | 50-100 | luxuriant | >=50% | pink to red |
| *Salmonella Enteritidis ATCC 13076* | 50-100 | luxuriant | >=50% | pink to red |
| *Salmonella Typhi ATCC 6539* | 50-100 | good-luxuriant | >=50% | light pink |
| *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.

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