HiCrome™ RajHans Medium/Modified (Salmonella Agar/Modified)

M1633/ M1634

Recommended For identification and differentiation of *Salmonella* species from among the members of *Enterobacteriaceae*, especially *Proteus* species.

Composition **

	M1633	M1634
Ingredients	Grams/Litre	Grams/Litre
Tryptone	8.00	8.00
Yeast extract	5.00	5.00
Peptone	4.00	4.00
Sodium chloride	5.00	5.00
Sodium deoxycholate	1.00	1.00
Neutral red	0.02	0.02
Lactose	3.00	3.00
Chromogenic mixture	7.30	4.32
Agar	13.50	12.00

Final pH (at 25°C) 7.3 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Directions

Suspend 46.82 grams of M1633 and 42.34 grams of M1634 in 1000 ml distilled water. Mix well and 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

HiCrome™ RajHans Medium/Modified is a modification of the original formulation of Rambach (2), used for differentiation of *Salmonella* species from *Proteus* species and other enteric bacteria. The original formulation is based on the novel characteristic of *Salmonella* species to produce acid from propylene glycol, which is detected by indicators present in the medium. These media are unique, because it is not based on acid production by propylene glycol. These media like many other media such as SS Agar, XLD Agar, recommended for the identification and differentiation of *Salmonella* species are based on lactose fermentation (1).

Tryptone, peptone and yeast extract supports the luxuriant growth of bacteria by providing carbonaceous and nitrogenous compounds, long chain amino acids, vitamin B complex and other essential nutrients. Sodium deoxycholate inhibits gram-positive organisms rendering the medium selective for enteric microorganisms. The chromogenic mixture incorporated in the medium yields pink to red colonies of *Salmonella*. Lactose fermenting organisms form light purple to blue violet colonies. Other enteric gram-negative bacteria form colourless colonies.

Type of specimen

Clinical: faeces, urine; Water samples and Food 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 (1).

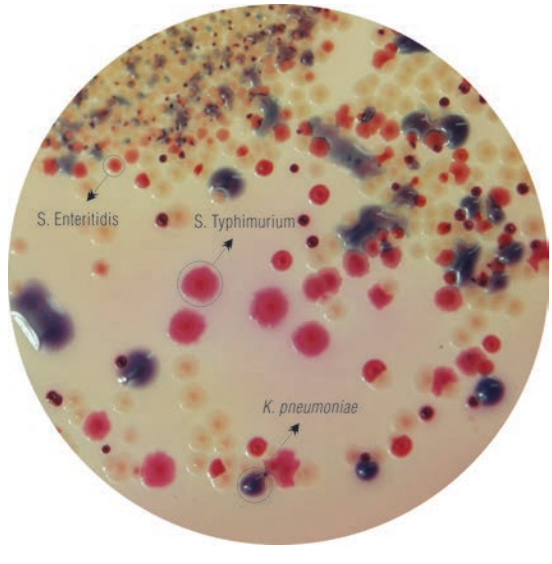
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use only. 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 shows pink-red colonies except few which may show colourless 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.



M1633 – HiCrome™ RajHans Medium (***Salmonella*** Agar)

HiCrome™ RajHans Medium/Modified (Salmonella Agar/Modified)

M1633/
M1634

Recommended For identification and differentiation of *Salmonella* species from among the members of *Enterobacteriaceae*, especially *Proteus* species.

Performance and Evaluation

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

Quality Control

Appearance of Powder : Light yellow to beige coloured, homogeneous, free flowing powder.

Gelling : Firm, comparable with 1.35% Agar gel of M1633 and 1.2% Agar gel of M1634.

Colour and Clarity of prepared medium : Light orange coloured, clear to slightly opalescent gel forms in Petri plates.

Reaction : Reaction of 4.68% w/v of M1633 and 4.23% w/v of M1634 aqueous solution at 25°C. pH:7.3 ± 0.2.

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
Escherichia coli (25922) (00013*)	50-100	luxuriant	≥50%	light purple
Klebsiella pneumoniae (13883) (00097*)	50-100	luxuriant	≥50%	blue-violet
Proteus mirabilis (25933)	50-100	luxuriant	≥50%	colourless
Salmonella Typhi (6539)	50-100	luxuriant	≥50%	colourless
Salmonella Typhimurium (14028) (00031*)	50-100	luxuriant	≥50%	pink-red
Salmonella Enteritidis (13076) (00030*)	50-100	luxuriant	≥50%	pink-red
Shigella flexneri (12022) (00126*)	50-100	luxuriant	≥50%	colourless
Staphylococcus aureus subsp aureus (25923) (00034*)	≥10^3	inhibited	0%	-

Key : * = corresponding WDCM Numbers

Storage and Shelf-life

Store between 2-8°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Use before expiry date on the label.

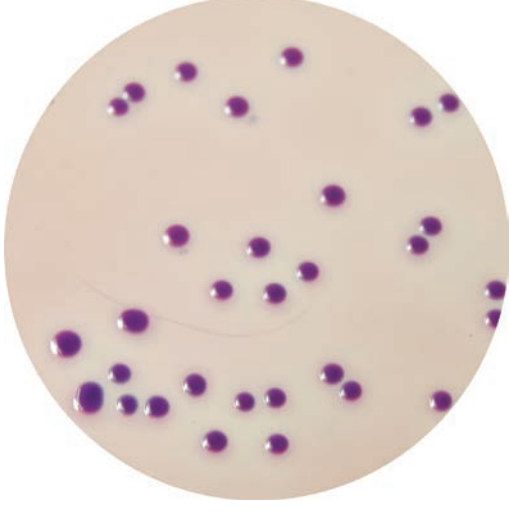
Product performance is best if used within stated expiry period.

Disposal

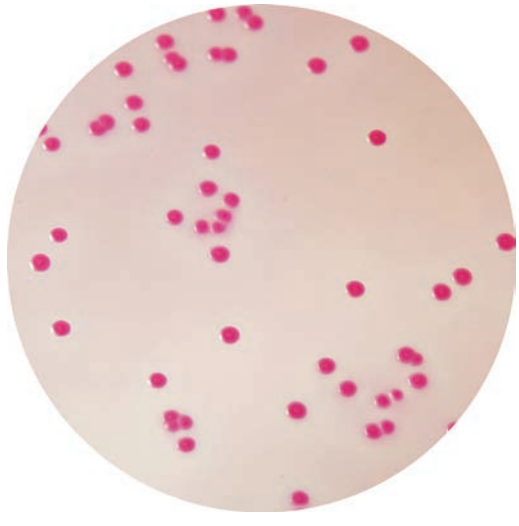
User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3, 4).

References

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and tWastewater, 23rd ed., APHA, Washington, D.C.
2. Rambach A., 1990, Environment. Microbiol, 56:301.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.



Klebsiella pneumoniae (13883) (00097*)



Salmonella Enteritidis (13076) (00030*)