HiCrome™ Listeria Agar Base, Modified

M1417

Intended use

HiCrome™ Listeria Agar Base, Modified is a selective and differential agar medium recommended for rapid and direct identification of *Listeria* species. It can also be used for clinical samples.

Composition**

Ingredients	Gms / Litre
Peptone, special	23.000
Sodium chloride	5.000
Yeast extract	1.000
HM extract #	5.000
Lithium chloride	5.000
Rhamnose	10.000
Phenol red	0.120
Chromogenic mixture	5.130
Agar	13.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Key : # - Equivalent to Meat extract

Directions

Suspend 33.62 grams in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Add rehydrated contents of 1 vial of HiCrome Listeria Selective Supplement (FD181) aseptically. Mix well and pour into sterile Petri plates.

Principle And Interpretation

HiCrome™ Listeria Agar Base, Modified is a modification of a medium first developed by Notermans et al. (4) and Mengaud et al.(2) for the detection of *Listeria* species from food stuffs. HiCrome™ Listeria Agar Base, Modified allows growth of *Listeria* species and gives a presumptive identification of *Listeria monocytogenes* within 24-48 hours after pre-enrichment.

This medium is based on the specific chromogenic detection of ß -glucosidase activity and also rhamnose fermentation. *Listeria* species hydrolyse the purified chromogenic substrate in the medium giving blue coloured colonies. Since ß -glucosidase activity is specific for *Listeria* species, other organisms cannot utilize the chromogenic substrate and therefore give white colonies. Differentiation between *Listeria* species is based on the property of rhamnose fermentation. The colonies of *L.monocytogenes* and *L.innocua* appear blue with a yellow halo (rhamnose positive) while the colonies of *L.ivanovii* appear blue without a yellow halo (Rhamnose negative).

Peptone special , yeast extract and meat extract provide nitrogenous, carbonaceous substances, long chain amino acids, vitamin B complex and other essential growth nutrients. Rhamnose is the fermentable carbohydrate with phenol red as an indicator. Sodium chloride maintains the osmotic equilibrium. The added lithium chloride and HiCrome Listeria Selective Supplement (FD181) inhibit growth of most gram-positive bacteria, gram-negative bacteria, yeasts and moulds.

Type of specimen

Clinical samples- blood ;Food samples.

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (1,3).
For food samples, follow appropriate techniques for sample collection and processing as per guidelines (5).
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. Due to nutritional variations, some strains may show poor growth.
2. Slight colour variation may be observed depending upon strains.
3. Further biochemical tests must be carried out for confirmation.

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 1.3% Agar gel.

Colour and Clarity of prepared medium

Red coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 6.72% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

M1417: Cultural characteristics observed w/added HiCrome™ Listeria Selective Supplement (FD181), after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony	Rhamnose fermentation
Cultural Response					
Bacillus subtilis subsp. spizizenni ATCC 6633 (00003)*	>=10^3	inhibited	0%-		
Candida albicans ATCC 10231 (00054*)	>=10^3	inhibited	0%		
Escherichia coli ATCC 25922 (00013*)	>=10^3	inhibited	0%		
Listeria innocua ATCC 33090 (00017*)	50-100	luxuriant	>=50%	bluish green	positive reaction, (yellow background)
Listeria ivanovii ATCC 19119 (00018*)	50-100	luxuriant	>=50%	bluish green	negative reaction
Listeria monocytogenes ATCC 19118	50-100	luxuriant	>=50%	bluish green	positive reaction, (yellow halo)
Pseudomonas aeruginosa ATCC 27853 (00025*)	>=10^3	inhibited	0%		

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store dehydrated medium 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 in order 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 (1,3).

Reference

1. Isenberg, H. Clinical Microbiology Procedures Handbook. 2nd Edition.

2.Mengaud J., Braun-Breton C. and Cossart P., (1991), Molecular Microbiology, 5(2): 367-372.P

3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

4.Notermans S.H. and Dufrenne J., (1991), Applied and Environmental Microbiology, 57(09): 2666-70.

5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of, Foods, 5th Ed., American Public Health Association, Washington, D.C.

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IVD	In vitro diagnostic medical device
CE	CE Marking
8°C 2°C	Storage temperature
	Do not use if package is damaged
	HiMedia Laboratories Pvt. Limited, 23 Vadhani Industrial Estate, LBS Marg,Mumbai-86,MS,India
EC REP	CE Partner 4U ,Esdoornlaan 13, 3951 DB Maarn The Netherlands, www.cepartner 4u.eu