Yersinia Enrichment Broth Base

M1367

Intended use

For the enrichment of Yersinia species, in particular *Yersinia enterocolitica* from human and animal intestinal contents.

Composition**

Ingredients	g / L
Casitose#	10.000
Yeast extract	1.000
Disodium hydrogen phosphate	2.000
Malachite green	0.013
Final pH (at 25°C)	5.8±0.2

**Formula adjusted, standardized to suit performance parameters
- Equivalent to Casein peptone

Directions

Suspend 13.01 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Mix well and dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Yersinia enterocolitica and related species *Yersinia intermedia*, *Yersinia frederiksenii* and *Yersinia kristensenii* constitute a heterologous group of organisms, some of which are parasites and potential pathogens of humans and animals, while others are apparently saprophytic and free living in water, soil and vegetation (1). *Y. enterocolitica* has been isolated from humans with a variety of clinical symptoms ranging from mild gastroenteritis, appendicitis and terminal ileitis. *Yersinia* has also been isolated from many animal species throughout the world. Human infections probably occur from ingestion of contaminated food products or animal contact. Family and other small outbreaks suggest that person to person transmission occurs.

Yersinia is relatively sensitive to acidic conditions; therefore acid foods and fermented products should be analyzed promptly. The most efficient procedure for recovering enteropathogenic bacteria from foods incorporates at least one and often two enrichment steps before plating onto selective differential agar media. Yersinia Enrichment Broth Base is recommended as an enrichment broth for *Yersinia* species. The diagnosis is confirmed by direct isolation of the organisms on solid medium from enrichment broth. Yersinia Enrichment Broth Base contains casitose and yeast extract providing necessary nutrients for growth of *Yersinia.* It has disodium hydrogen phosphate acting as buffer salt. Malachite green in the medium inhibits other contaminating bacteria.

For enrichment of *Y. enterocolitica*, prepare 1:10 homogenate of the food sample by weighing 25 grams of food and adding it to 225 ml of primary enrichment medium. Carefully transfer the homogenate from the blender up to a sterile jar or flaks for incubation. After incubation, inoculate in selective enrichment broth (Yersinia Enrichment Broth Base) at a ratio of 1:100. Incubate at 25°C and streak onto a plating agar such as CIN Agar (Yersinia Selective Agar Base) after 3 and 5 days.

Type of specimen

Clinical samples - Stool sample; Food and dairy samples

Specimen Collection and Handling:

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (2,3). For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).

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

Warning and Precautions :

In Vitro diagnostic Use. For professional 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.Individual organisms differ in their growth requirement and may show variation in growth.
2.Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

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 light blue homogeneous free flowing powder

Colour and Clarity of prepared medium

Greenish blue coloured clear to slightly opalescent solution with a slight precipitate.

Reaction

Reaction of 1.3% w/v aqueous solution at 25°C. pH : 5.8±0.2

pH

5.60-6.00

Cultural Response

Cultural characteristics observed after an incubation at 25- 30°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited
Yersinia enterocolitica ATCC 27729	50-100	good-luxuriant

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°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 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. 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 (4,5).

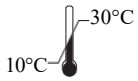
Reference

1. Collee J. G., Duguid J. P., Fraser A. G., Marmion B. P., (Eds.), Mackie and McCartney, Practical Medical Microbiology,1989, 13th Edition, Churchill Livingstone.
2. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed.,WashingtonD.C.
3. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. 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.

Revision :06/2024

HiMedia Laboratories Pvt. Limited,
Plot No.C-40, Road No.21Y,
MIDC, Wagle Industrial Area,
Thane (W) -400604, MS, India

IVD ***In vitro*** **diagnostic medical device**



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE **CE Marking**

Do not use if package is damaged

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.