Rapid Listeria Selective Enrichment Broth

M2041

Recommended for the rapid and selective enrichment of *Listeria* species from food.

Composition**

Ingredients	Gms / Litre
Peptone	24.000
Inhibitor mix	4.200
Growth factors	18.000
Final pH (at 25°C)	7.2±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 46.2 grams of dehydrated medium in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Mix well and dispense as desired in sterile tubes or flasks.

Principle And Interpretation

Listeria species are widely distributed and are isolated from soil, decaying vegetable matter, sewage, water, animal feed, fresh and frozen poultry, meats, raw milk, cheese and asymptomatic human and animal carriers (6). Only *Listeria monocytogenes* from the genus *Listeria*; causes infections in humans. *L. monocytogenes* primarily causes meningitis, encephalitis or septicemia in humans (4,7). In pregnant women, *Listeria monocytogenes* often causes an influenza like bacteremic illness that, if untreated, may lead to ammionitis and infection of the fetus, resulting in abortion, still birth or premature birth. Contaminated foods are the primary vehicles of transmission (3).

Rapid Listeria Selective Enrichment Broth is recommended for selective enrichment of *Listeria* species.This medium contains peptone and growth factors which provide essential nutrients like carbon and nitrogenous compounds including vitamins, long chain amino acids and trace ingredients. Being nutrionally rich, the medium supports rapid growth of microrganisms in 18-24 hours. Inhibitor mix present in the medium helps in inhibiting the non target organism. It can be used as an selective enrichment medium prior to plating on an selective or chromogenic medium for *Listeria.*

Type of specimen

Food samples.

Specimen Collection and Handling:

For food, 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 :

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 specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Due to nutritional variation some organisms may show poor growth.
2. Further biochemical testing is required for identification of organisms.

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
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Yellow coloured clear solution.

Reaction
Reaction of 4.62% w/v aqueous solution at 25°C. pH : 7.2±0.1

pH
7.10-7.30

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

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited
Enterococcus faecalis ATCC 29212 (00087*)	50-100	none-poor
Listeria monocytogenes subsp. serovar 1 ATCC 19111 (00020*)	50-100	good-luxuriant
Listeria monocytogenes ATCC 19112	50-100	good-luxuriant
Listeria monocytogenes ATCC 19117	50-100	good-luxuriant
Listeria monocytogenes ATCC 19118	50-100	good-luxuriant
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	50-100	none-poor

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store the dehydrated powder and prepared medium on receipt between 15-25°C in a tightly closed container. 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 (1,2).

Reference

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3. Murray P. R., Baron E. J., Jorgensen J. H., Pfaller M. A., Yolken R. H., (Eds.), 8th Ed., 2003,Manual of Clinical ASM, Washington, D.C.
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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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