Listeria Selective Primary Broth Base

M2045

Intended Use:

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

Composition**

Ingredients	Gms / Litre
Casitose ▲	12.000
HM peptone ##	3.000
Soya peptone	5.000
Sodium chloride	10.000
Dextrose (Glucose)	1.000
Sodium carbonate	0.230
Yeast extract	5.000
Esculin	1.000
Disodium hydrogen phosphate	9.600
Potassium hydrogen phosphate	1.350
Lithium chloride	5.000

**Formula adjusted, standardized to suit performance parameters

▲ Equivalent to casein peptone

Equivalent to Meat Peptone

Directions

Suspend 53.18 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add rehydrated contents of 1 vial of NAMC Listeria Selective Supplement (FD341). Mix well and dispense as desired.

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 (10). Only *Listeria monocytogenes* from the genus *Listeria*; causes infections in humans. *L. monocytogenes* primarily causes meningitis, encephalitis or septicemia in humans (9, 10). 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 (6). The pathogenicity of *Listeria ivanovii* for humans is uncertain.

This medium contains HM peptone, tryptone, soya peptone and yeast extract which provide essential nutrients like carbon and nitrogenous compounds including vitamins, long chain amino acids and trace ingredients. Phosphates buffer the medium while sodium chloride maintains osmotic equilibrium. Nalidixic acid and Acriflavin in added supplement inhibits the growth of gram-negative and gram-positive organisms respectively except *Listeria* species (3,4,5). *Listeria* species hydrolyze esculin to glucose and esculetin.

Type of specimen

Food sample

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (8).
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
Fluorescent yellow coloured clear solution.

Cultural response
Cultural characteristics observed with added NAMC Listeria Selective Supplement (FD341) 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 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*)	>=10^4	none-poor
Listeria ivanovii ATCC 19119 (00018*)	50-100	good-luxuriant
Listeria innocua ATCC 33090 (00017*)	50-100	good-luxuriant

Key : (*) Corresponding WDCM numbers

Storage and Shelf Life

Store between 15-25°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 (1,2).

Reference

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