



## HiFast™ *Listeria* Enrichment Broth Base

M2048

### Intended use

Recommended for the rapid and selective enrichment of *Listeria* species from food samples in 24 hours.

### Composition\*\*

Ingredients	g / L
Peptone	28.000
Salt mix	10.000
Carbohydrate mixture	6.000
Final pH ( at 25°C)	7.4±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 44.0 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add the rehydrated contents of one vial of ACN Supplement (FD342). Mix well and dispense in sterile tubes or flasks 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 (1). Only *Listeria monocytogenes* from the genus *Listeria*; causes infections in humans. *L. monocytogenes* primarily causes meningitis, encephalitis or septicemia in humans (2,3). In pregnant women, *Listeria monocytogenes* often causes an influenza like bacteremic illness that, if untreated, may lead to amnionitis and infection of the fetus, resulting in abortion, still birth or premature birth. Contaminated foods are the primary vehicles of transmission (4).

HiFast™ *Listeria* Enrichment Broth Base is recommended for selective enrichment of *Listeria* species from food samples. This medium contains peptone and carbohydrate mixture which provide essential nutrients like carbon and nitrogenous compounds including vitamins, long chain amino acids and trace ingredients. Being nutritionally rich, the medium supports rapid growth of microorganisms in 18-24 hours. Salt mix helps in buffering the medium. The selective supplement added to the medium helps in inhibiting the non-target organism. It can be used as a selective enrichment medium prior to plating on a selective or chromogenic medium for *Listeria*.

### Type of specimen

Food samples

### Specimen Collection and Handling:

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 :

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 variable nutritional requirements, some strains may show poor growth on this medium.

### Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within expiry period when stored at the 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 4.4% w/v aqueous solution at 25°C. pH : 7.4±0.2

### pH

7.20-7.60

### Cultural response

Cultural characteristics observed with added ACN Supplement (FD342) after an incubation at 30-35°C for 22-26 hours.

Organism	Inoculum (CFU)	Growth
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	≥10 <sup>4</sup>	inhibited
<i>Listeria monocytogenes</i> serovar 1 ATCC 19111 (00020*)	50-100	good-luxuriant
<i>Listeria monocytogenes</i> ATCC 7644	50-100	good-luxuriant

Key: (\*) Corresponding WDCM number

## 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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

## Reference

1. Seeliger H. P. R., and Jones D., 1986, Bergeys Manual of Systematic Bacteriology, Vol. The Williams and Wilkins Co., Baltimore.
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3. Schuchat A. B., Swaminathan and C. V. Broome, Clin. Microbiol. Rev. 4: 169-183.
4. Murray P. R., Baron E. J., Jorgensen J. H., Tenover F. C., Tenover P. C., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.
5. 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.
6. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
7. Jorgensen, J.H., Tenover, F.C., Carroll, K.C., Funke, Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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