



Dehydrated Culture Media
Instructions for Use

BUFFERED LISTERIA ENRICHMENT BROTH (M519)

Dehydrated Culture Media

USE: Buffered Listeria Enrichment Broth is used as an enrichment broth for the cultivation of *Listeria* spp. from food according to the U.S. Food and Drug Administration (FDA).²

DESCRIPTION: First described in 1926 by Murray, Webb, and Swann,³ *Listeria monocytogenes* is a widespread problem in public health and the food industries. This organism can cause human illness and death, particularly in immunocompromised individuals and pregnant women.⁴ The first reported food-borne outbreak of listeriosis was in 1985.⁵ Since then, microbiological and epidemiological evidence from both sporadic and performance parameters such as pH, or Quality Control organisms are not within specification. Cases of listeriosis has shown that the principal route of transmission is via the consumption of foodstuffs contaminated with *Listeria monocytogenes*.⁵ *Listeria* species grow over a pH range of 4.4-9.6 and survive in food products with pH levels outside these parameters.⁹ *Listeria* spp. are microaerophilic, gram-positive, asporogenous, non-encapsulated, non-branching, regular, short, motile rods. Motility is most pronounced at 20°C. The most common contaminating bacteria found in food sources potential containing *Listeria* are: streptococci, especially the enterococci, micrococci, *Bacillus* species, *Escherichia coli*, *Pseudomonas aeruginosa*, and *Proteus vulgaris*.¹⁰ Identification of *Listeria* is based on successful isolation of the organism, biochemical characterization and serological confirmation. Buffered Listeria Enrichment Broth is a modification of Listeria Enrichment Broth with added buffering strength. The addition of selective agents is delayed until after four hours of enrichment with this formula.²

FORMULA:

| | |
|-----------------------------------|-----------|
| Pancreatic Digest of Casein | 17.0 g/L |
| Soytone | 3.0 g/L |
| Dextrose | 2.5 g/L |
| Sodium Chloride | 5.0 g/L |
| Dipotassium Phosphate | 2.5 g/L |
| Disodium Phosphate | 9.6 g/L |
| Monopotassium Phosphate | 1.35 g/L |
| Yeast Extract | 6.0 g/L |
| Sodium Pyruvate | 1.1 g/L |
| Cycloheximide | 0.05 g/L |
| Acridine HCl | 15.0 mg/L |
| Nalidixic Acid | 0.04 g/L |
| Total | 48.2 g/L |

Note: Medium may be adjusted and/or supplemented as required to meet performance criteria.

Final pH: 7.3 ± 0.2 at 25°C

PHYSICAL APPEARANCE:

Dehydrated – Powder is homogenous, free-flowing, and light beige.

Prepared – Medium is clear and light to medium in amber in color.

PROCEDURE: Mix 48.2 grams of the medium in one liter of purified water. Autoclave at 121°C for 15 minutes.

EXPECTED RESULTS: Cultural response after 18-48 hours at 30 ± 2°C.

| Microorganism | CFU | Growth |
|--|-----------------|--|
| <i>E. faecalis</i> ATCC™ 29212 | 10 ³ | Inhibition at 18-24 hrs, none to poor at 40-48 hrs |
| <i>E. coli</i> ATCC™ 25922 | 10 ³ | Inhibition |
| <i>L. monocytogenes</i> ATCC™ 19114 | 30-300 | + |

STORAGE: Store the product at 2-30°C protected from moisture and light for up to the expiration date.

LIMITATIONS: For laboratory use only. The dehydrated medium should be discarded if there are any changes in the color or if it is no longer free flowing.

SIZES AVAILABLE: Available upon request.

PACKAGING: Additional configurations are available upon request.

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