BUFFERED LISTERIA ENRICHMENT BROTH BASE

BLEB-IEP-500

- **Principle**

Buffered Listeria Enrichment Broth Base is composed of casein enzymic hydrolysate, papaic digest of soya meal, sodium chloride, dipotassium hydrogen phosphate, potassium dihydrogen phosphate (monopotassium phosphate), dextrose, yeast extract, disodium phosphate, and sodium pyruvate.

Casein enzymic hydrolysate and papaic digest of soya meal provide sources of carbon, nitrogen, amino acids and other essential nutrients required for microbial growth. Dextrose serves as an energy source. Sodium pyruvate supports the recovery of stressed or injured organisms. The phosphate salts provide buffering capacity, while sodium chloride maintains osmotic equilibrium. Yeast extract supplies additional growth factors, including B-complex vitamins.

To increase selectivity, the medium may be supplemented with antimicrobial agents. Trypaflavine (acriflavine) suppresses the growth of Gram-positive microorganisms, nalidixic acid inhibits Gram-negative bacteria, and cycloheximide inhibits the growth of saprophytic fungi.

According to the FDA's Bacteriological Analytical Manual (BAM) enrichment procedure for the isolation of Listeria monocytogenes from dairy products, the test sample is inoculated into enrichment broth and incubated at 30°C for 4 hours without selective supplements. After 4 hours, the selective supplement is added, and incubation is continued for a further 44 hours at 30°C.

At 24 hours and 48 hours, the enrichment culture is subcultured onto a Listeria selective medium and incubated at 35°C for 24–48 hours. Suspected colonies are then streaked onto TGYA and subjected to biochemical identification.

- **Regulatory compliance**

This product is manufactured under a quality management system in accordance with ISO 9001 and ISO 13485, and its formulation and quality control comply with applicable international standards, such as ISO 11133, where relevant.

- **Composition**

Ingredients	**g/L**
Casein Enzyme Hydrolysate	17.00
Papaic Digest of Soy	3.00
Sodium Chloride	5.00
Di-potassium Hydrogen Phosphate	2.50
Mono-potassium Phosphate	1.35
Dextrose	2.50
Yeast Extract	6.00
Disodium Phosphate	9.60
Sodium Pyruvate	1.00

- **Preparation**

Dissolve 48.00 grams in 995 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121 °C) for 15 min, cool it to 42-45 °C and add 5 ml of Listeria selective supplement containing 10 mg of trypaflavine, 40 mg of nalidixic acid and 50 mg of cycloheximide, mix well and distribute aseptically desired and inoculate test sample aseptically.

- **Applications and use**

Recommended for enrichment and isolation of *Listeria monocytogenes*. Food samples and dairy products.

- **Quality control**

Solubility	w/o rests
Appearance	Fine powder
Colour of the dehydrated medium	Beige
Colour of the prepared medium	Amber
Final pH (25 °C)	7.1 ± 0.2

- **Microbiological test**

Microorganism	ATCC	Inoculum (CFU)	Growth
Listeria monocytogenes	13932	50 - 100	Luxuriant
Escherichia coli	8739	50 - 100	Inhibited
Staphylococcus aureus	25923	50 - 100	None to poor

- **Storage**

The product is highly hygroscopic; keep the container always closed and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Temp. Min.:2 °C Temp. Max.:25 °C.

Note: Sterilize media immediately after reconstitution.

- **Bibliography**

Downes F. P. and Ito K., (Ed.), (2001), Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.

Hitchins, A. D. (1998). Listeria monocytogenes. Chapter 10. In: G. J. Jackson (Coordinator) Bacteriological Analytical Manual. 8th Edition. Revision A. AOAC INTERNATIONAL, Gaithersburg, MD.

- **Product use limitation**

This product is developed, designed and supplied exclusively for research use only. It is not intended for diagnostic applications or drug development, and it is not suitable for administration to humans or animals.