

TM 1224 – LISTERIA ENRICHMENT BROTH, MODIFIED

INTENDED USE

For selective enrichment of *Listeria* species

PRODUCT SUMMARY AND EXPLANATION

Only *Listeria monocytogenes* among the *Listeria* species is reported to cause infection in humans. In human adults, *L. monocytogenes* primarily causes meningitis, encephalitis or septicemia. The tropism of *L. monocytogenes* for the central nervous system leads to severe disease, often with high mortality or with neurologic disorders among survivors.

Listeria Enrichment Broth, Modified, a modification of the original formulation of Donnelly and Baigent, is used for the selective enrichment of *Listeria* species. In this medium, the nalidixic acid concentration has been reduced from 40 mg/l in the original composition, to 20 mg/l. Listeria Enrichment Broth, Modified is used for selective enrichment of *Listeria* species from milk, milk products and other foods.

COMPOSITION

| Ingredients | Gms / Ltr |
|--|-----------|
| Tryptose | 10.000 |
| Yeast extract | 5.000 |
| Beef extract | 5.000 |
| Sodium chloride | 20.000 |
| Disodium hydrogen phosphate | 9.600 |
| Potassium dihydrogen phosphate | 1.350 |
| Esculin | 1.000 |
| Nalidixic acid | 0.020 |
| Acriflavin hydrochloride (Trypaflavin) | 0.012 |

PRINCIPLE

This medium consists of tryptose, yeast extract and Beef extract which provide essential nutrients like carbon and nitrogenous compounds including vitamins, amino acids and trace ingredients. Phosphates provide buffering action to the medium while sodium chloride maintains osmotic equilibrium. Nalidixic acid and acriflavin inhibit the growth of gram-negative and gram-positive organisms respectively except *Listeria* species.

INSTRUCTION FOR USE

- Dissolve 51.98 grams in 1000 ml purified/distilled water.
- Heat if necessary to ensure complete solution.
- Dispense into bottles or tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.

QUALITY CONTROL SPECIFICATIONS

| | |
|--------------------------------------|---|
| Appearance of Powder | : Cream to yellow homogeneous free flowing powder. |
| Appearance of prepared medium | : Yellow coloured, clear to slightly opalescent solution having a bluish tinge. |
| pH (at 25°C) | : 7.2 ± 0.2 |

INTERPRETATION



Cultural characteristics observed after incubation.

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Incubation Temperature | Incubation Period |
|--|-------|-------------------|-----------|------------------------|-------------------|
| <i>Escherichia coli</i> | 25922 | $\geq 10^4$ | Inhibited | 35-37°C | 24-48 Hours |
| <i>Listeria monocytogenes subsp. serovar 1</i> | 19111 | 50-100 | Luxuriant | 35-37°C | 24-48 Hours |
| <i>Listeria monocytogenes</i> | 19112 | 50-100 | Luxuriant | 35-37°C | 24-48 Hours |
| <i>Listeria monocytogenes</i> | 19117 | 50-100 | Luxuriant | 35-37°C | 24-48 Hours |
| <i>Listeria monocytogenes</i> | 19118 | 50-100 | Luxuriant | 35-37°C | 24-48 Hours |
| <i>Staphylococcus aureus subsp. aureus</i> | 25923 | $\geq 10^4$ | Inhibited | 35-37°C | 24-48 Hours |

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.







DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

- Donnelly C. W. and Baigent G. J., 1986, Appl. Environ. Microbiol., 52:689
- Lovette J., Francis D. W. and Hunt J. M., 1987, J. Food Prot., 50:188
- Lee W. H. and McClain D., 1986, Appl. Environ. Microbiol., 52:1215
- McClain D. and Lee W. H., 1988, J. Assoc. Off. Anal. Chem., 71:660.
- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.



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| GMP Good Manufacturing Practices Certified | IVD For In Vitro Diagnostic Use | QTY. Quantity | LOT/ B. NO. Lot / Batch Number | REF Catalogue Number |  Manufacturer |
|  Temperature Unit | EC REP Authorized Representative <small>MedNet GmbH Bockstrasse 10, 48143 Muenster, Germany</small> |  European Conformity |  QR Code |  Consults Instructions for Use |  Best Before |

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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